

Digital Payments:

On track to a less-cash future



Digital transactions to reach USD 41tn by FY25

Key enablers - Payment gateways; QR; POS

Investment focus to shift from wallets to other payment modes

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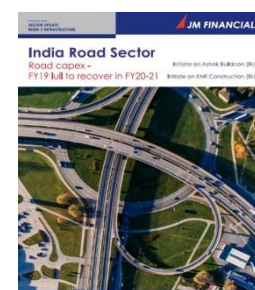
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On track to a less-cash future

In the first report in our India Fintech series ([Channel choices driving market expansion, 28Aug'19](#)), we covered the Digital Insurance market in detail. We discussed how new-age insurance companies and web aggregators are leveraging the digital medium to penetrate the insurance industry. In this report, we attempt a deep-dive into India's digital payments market, which is still primarily cash-driven despite the government's continued efforts to make India a cashless economy. The trend is however changing, albeit slowly.

Digital penetration in payments is still low in the country; this is because until a few years ago, there was limited infrastructure to support such payments. However, with the government's push and innovations from PE-backed fintech companies, both users and merchants are slowly adopting digital transactions. From a user perspective, IMPS, NEFT and net/mobile-banking were the services that helped pick up adoption initially, while merchants benefitted from infrastructure support such as payment gateways, QR codes (introduced by Paytm in 2015) and a growing push towards POS machines; this helped provide a variety of payment options with convenience, speed and security. More recently, the sector has been fuelled by government initiatives such as Demonetization, the introduction of Unified Payments Interface (UPI) and Bharat Bill Payment System (BBPS) along with relief on service tax, rationalisation of merchant discount rate (MDR), support on issuance of 'Rupay cards' and deployment of POS devices in rural areas.

Sizing the digital payments market

We estimate the digital payments industry to post a CAGR of 11.9% over FY19-25E, reaching INR 2,875tn (USD 41tn) by FY25E. However, a major proportion of this market constitutes RTGS, NEFT and IMPS, which we have chosen to exclude from our discussions. We believe UPI would record the most robust growth among all pay modes, posting a CAGR of 82% over FY25E and reaching INR 317tn (USD 4.5tn). Among non-traditional payment modes, we expect prepaid instruments (PPIs) to post the lowest CAGR of 12% during the same period. This is likely because several payments are expected to shift to UPI/cards during the given period, which would also fuel overall growth in the digital payments industry.

Digital Infrastructure is the key for penetration

Across the various modes of payments available today, we believe infrastructure support has been the key driver of growth in digital transactions. Within online digital payments, payment gateways have fuelled the sector, while in the offline mode, deployment of POS machines and QR codes served as key catalysts. UPI, the major contributor of digital payments in the last 18 months, has been enabled across platforms by these infrastructure providers and can now be used on QR, POS machines as well as payment gateways to make direct payments to merchants. With improving technology and reach, this support is likely to become more efficient, faster and secure and is expected to pull more merchants online.

Business economics for digital payment enablers

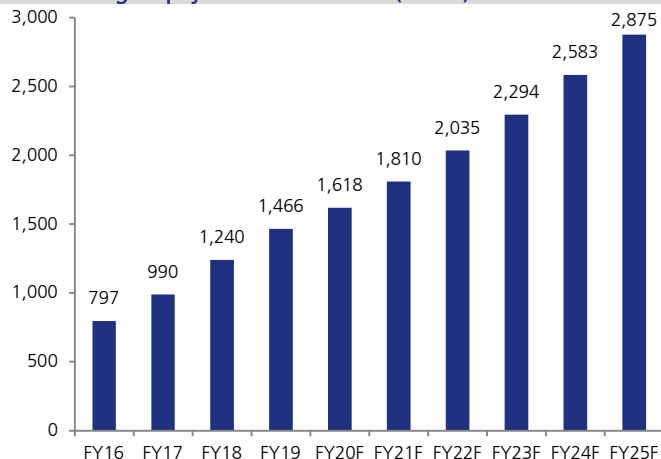
Our interactions with several experts in the payments industry indicate that P2M payments adoption is slated to boost digital payments across the country. A merchant incurs a wide range of fixed, variable and optional charges while accepting payments. These charges vary across pay modes and range from 0.3% (for UPI) to over 2% (for credit cards) of the total transaction amount. In most cases, a major share of the interchange fee goes to the issuing bank, which takes the risk on the transaction. The rationalisation of MDR by the RBI/NPCI should help digital adoption by new businesses, especially for unorganised businesses.

Investment focus to shift from wallets to other modes

The steady growth in share of digital payment volumes in India over the last few years is leading to increased investor interest in the digital-payment enabling companies. While the initial round of investments was largely focused on mobile wallet companies, the next rounds of investment opportunities are likely to be found by UPI enablers, payment gateways and POS/QR providers as wallets may find fewer incremental use cases owing to the growing popularity of UPI payments. Moreover, substantial government support to push the adoption of card payments (especially Rupay), is also likely to impact the use of mobile wallets in India.

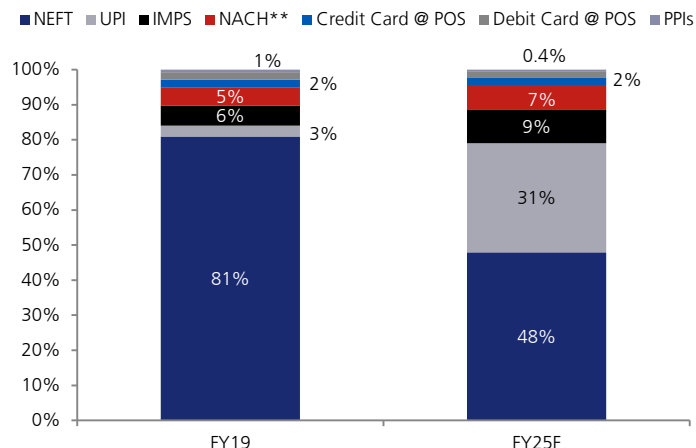
Focus charts

Exhibit 1. Digital payments market size (INR tn)



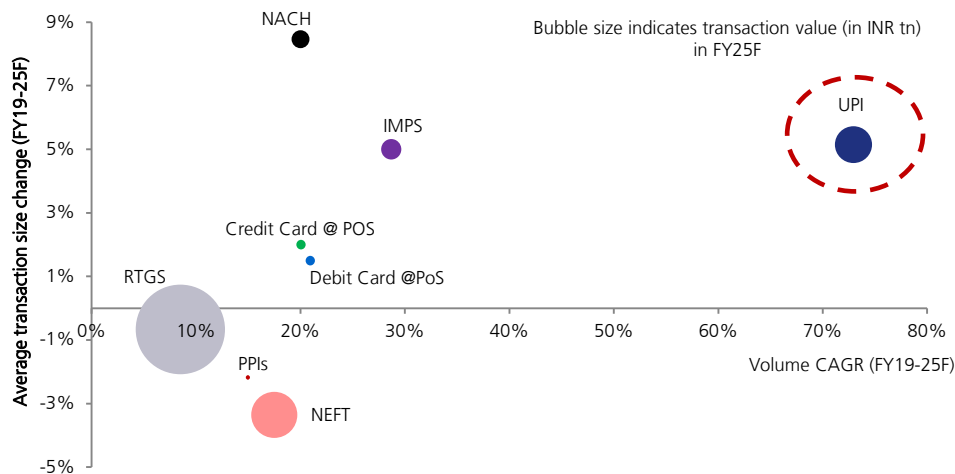
Source: RBI, JM Financial Estimates

Exhibit 2. Digital payments value market share (excluding RTGS)



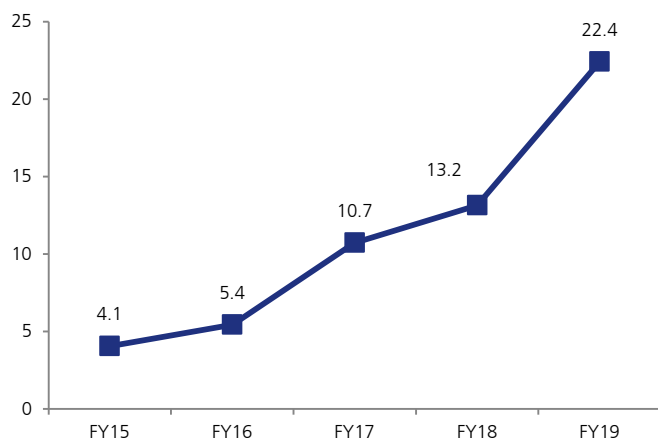
Source: RBI, JM Financial Estimates. Note: We have excluded RTGS from this exhibit as the payment is used for big ticket transactions that skew the value market share.

Exhibit 3. Size and likely growth trend in different pay modes



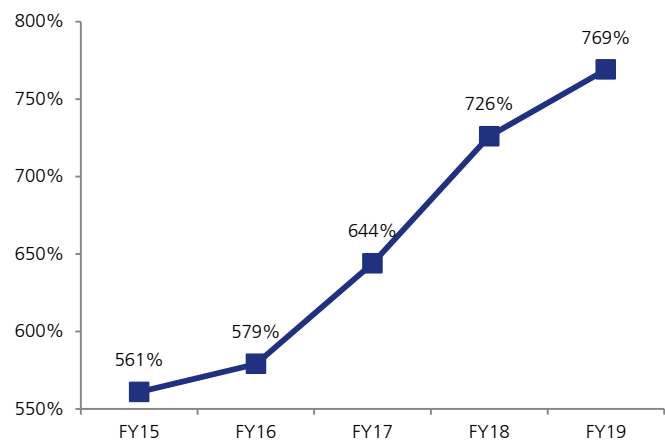
Source: JM Financial

Exhibit 4. Number of digital payments per capita in a year in India

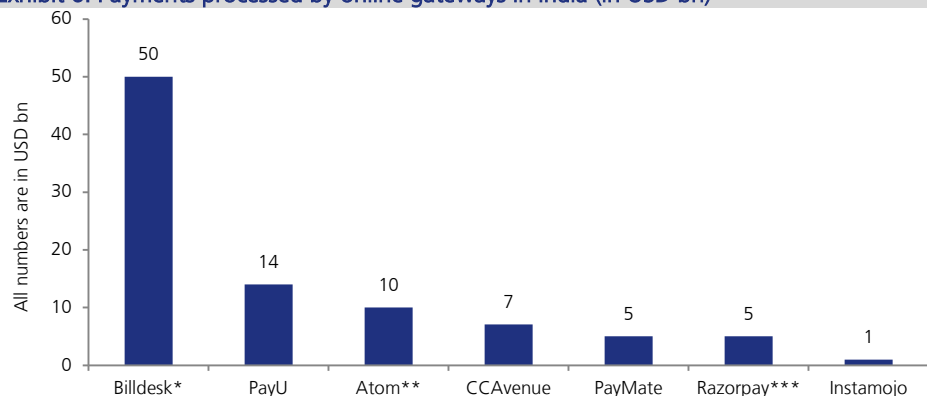


Source: RBI, JM Financial

Exhibit 5. Digital payments value as a % of GDP



Source: RBI, JM Financial

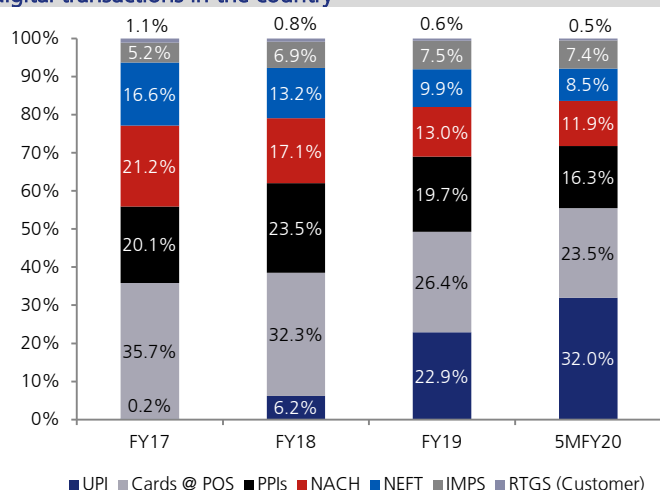
Exhibit 6. Payments processed by online gateways in India (in USD bn)

Source: Media Reports, Company Websites, Infibeam Presentation (1QFY20), JMFL.

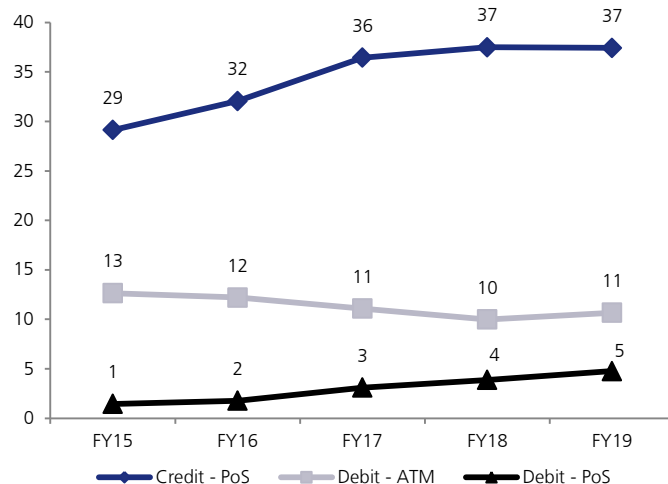
Note 1: Billdesk numbers likely include offline bill payments processed through agents

Note 2: Atom has omni-channel presence and offline payments are likely included in its numbers

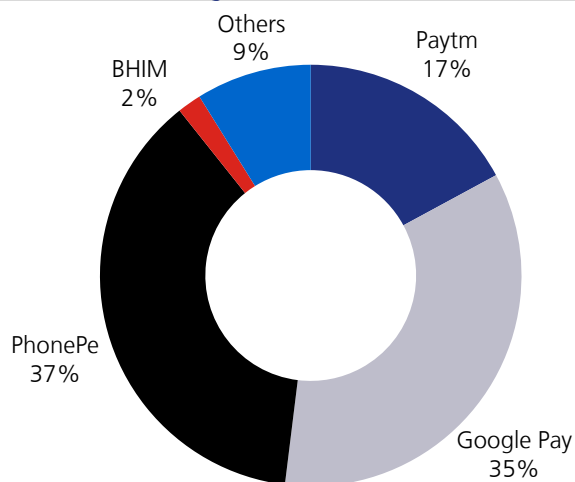
Note 3: Razorpay numbers are on annualized basis

Exhibit 7. In volume terms, UPI now accounts for 32% of total digital transactions in the country

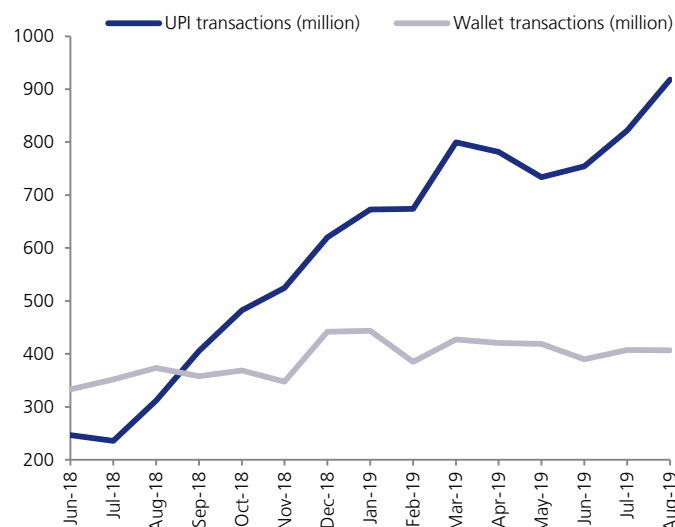
Source: RBI, NPCI, JM Financial

Exhibit 8. Average per credit card usage (no. of transactions) at POS far exceeds debit card usage at POS and ATM combined

Source: RBI, JM Financial

Exhibit 9. PhonePe and Google Pay lead the UPI payments market (% of transactions, Aug'19)

Source: Media Report, JM Financial

Exhibit 10. UPI transactions now significantly exceed wallet transactions, within 3 years of launch

Source: RBI, NPCI, JM Financial

Fintech – attracting investments from global VCs

- Fintech companies primarily offer a convenient and personalised financial services experience to customers; this is driven by data and analytics that are arguably better than those used by banks or other financial institutions. Although gradual, Fintech has been expanding in India in steps, beginning with initiatives such as 'Aadhaar' and 'bank accounts for all' to 'platforms for moving money digitally'. These have consistently been supported by the government with a big push after Demonetization. Several Fintech start-ups have used these opportunities to position themselves strongly in the digital economy. Also, this revolution has compelled investors from overseas to show interest in the space.
- The sector has been attracting large VC investments, especially in the past 3-5 years, with about 19% of the overall tech investment in India going to Fintech as at end-Jul'19. This share of funding was as low as 4% in 2014. However, a huge shift in the popularity of the online medium and a large number of transactions taking place digitally in the past 5 years has allowed several Fintech start-ups as well as traditional players to see their volumes rise. Demonetization provided an additional boost to the sector.

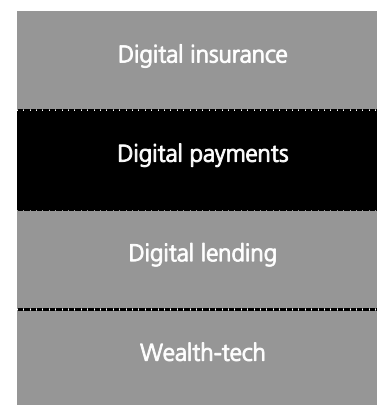
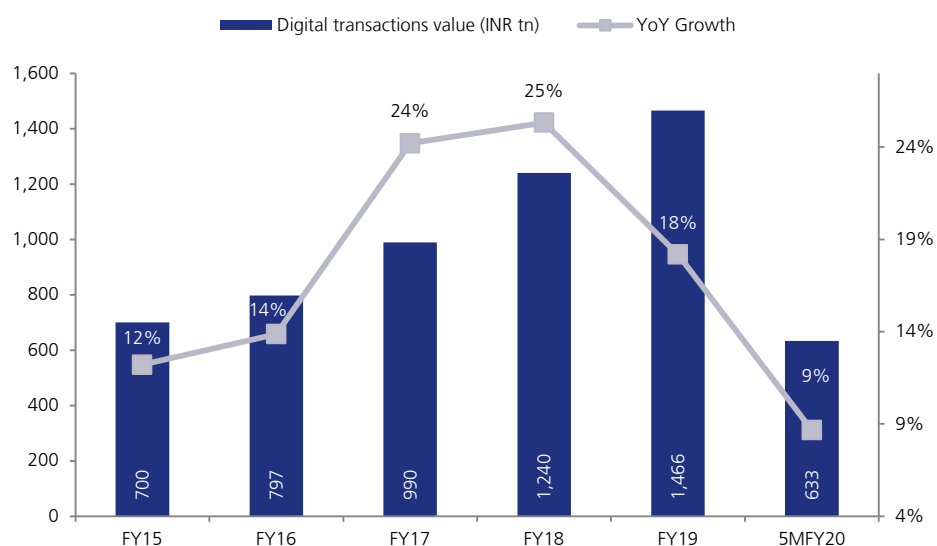


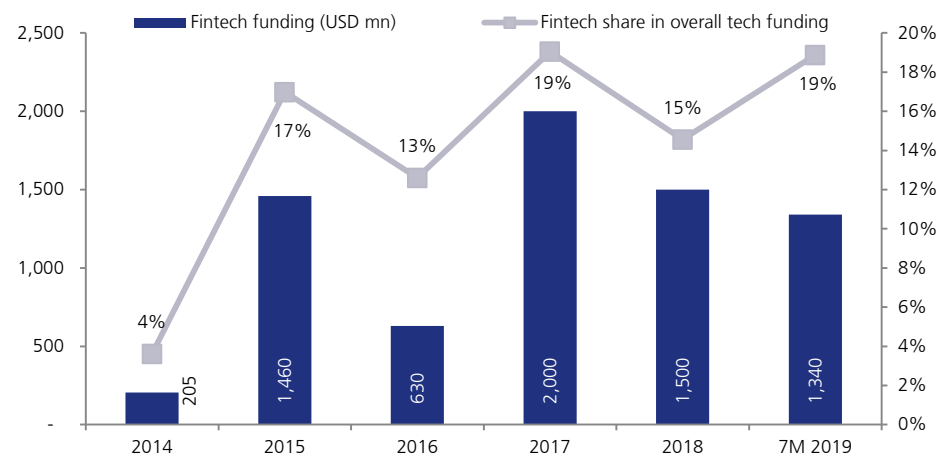
Exhibit 11. Robust growth in digital retail transactions



Source: RBI, NPCI. Digital transactions include RTGS (Customer), NEFT, IMPS, NACH/ECS, UPI, credit and debit cards at POS and prepaid payment instruments.

Digital transaction numbers are growing fast, driven by UPI and affordable data costs.

Exhibit 12. Fintech funding in India and as a proportion to total tech funding



Source: Tracxn, JM Financial

Fintech start-ups have attracted sizeable funding in the past 5 years

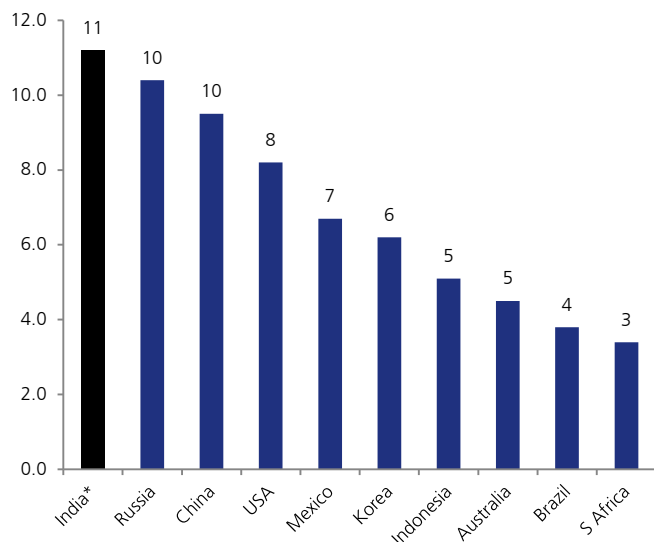
- This is our second report on the Fintech sector. We cover the digital payments industry in detail in this report, which will be followed by reports on digital lending and wealth-tech over the next few months. In our last report, we tackled the [Digital Insurance](#) sector.

Payments industry in India

Cash is still King...

Despite the government's efforts to transform India into a cashless society, RBI data and our understanding suggests that cash is still the dominant mode of transactions in the country. India has one of the highest ratios for 'currency in circulation to GDP' and the 'digital payments per capita' is among the lowest globally. While it is difficult to estimate the total value of cash-based transactions in India, we believe the penetration of digital transactions is increasing rapidly, although on a rather small base.

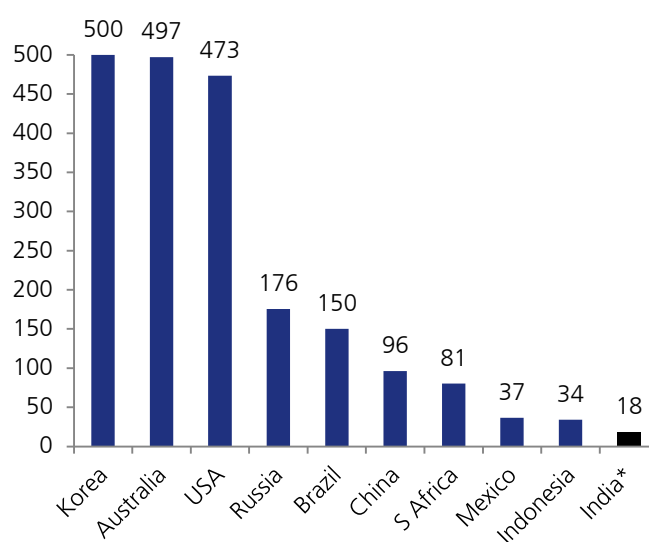
Exhibit 13. Ratio of currency in circulation to GDP (%) - 2017



Source: Bank for International Settlements, RBI, JM Financial

*Note: For India, data is for FY19. This data excludes RTGS and CCIL transactions.

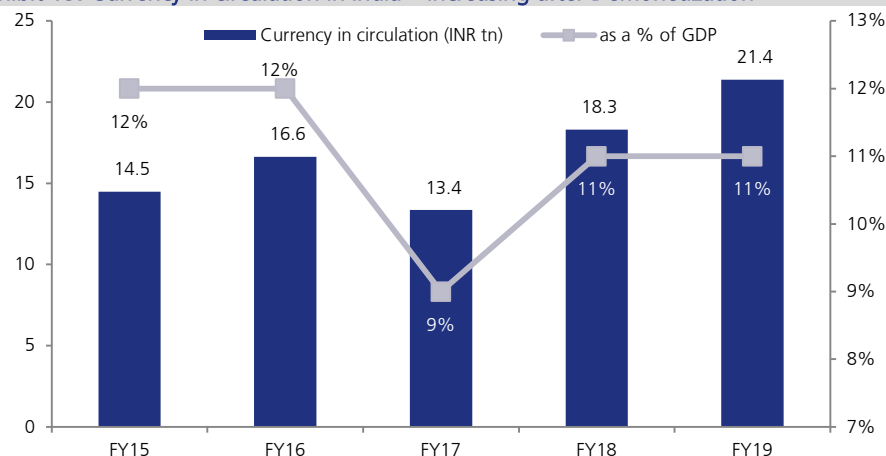
Exhibit 14. Avg. number of cashless payments per inhabitant (2017)



Source: Bank for International Settlements, RBI, JM Financial

*Note: For India, data is for FY19. This data excludes RTGS and CCIL transactions.

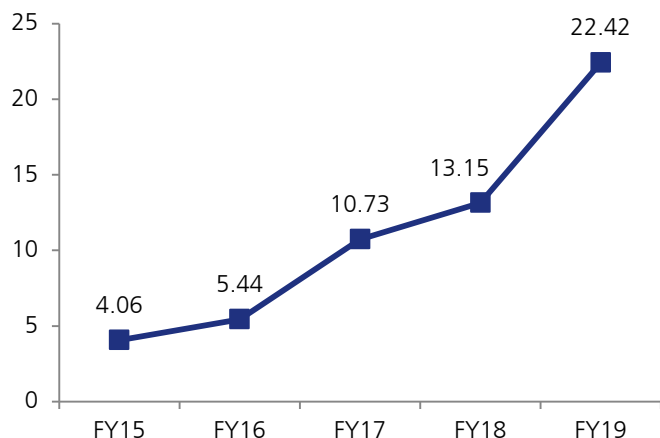
Exhibit 15. Currency in circulation in India – increasing after Demonetization



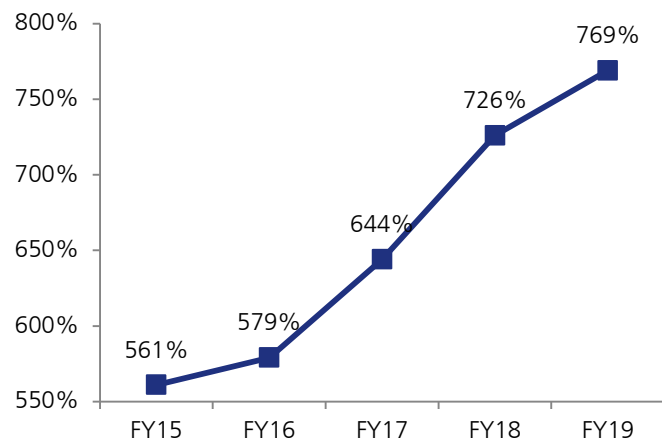
Source: RBI, JM Financial

...but digital payments are gaining traction

The number of 'digital payments per capita' in India is rising fast (although it is still low compared with global averages). It increased from 4.1 in FY15 to 22.4 in FY19. The value of digital payments as a proportion of GDP too increased sharply, indicating the robust and rapid growth in digital transactions. It currently stands at 769% of GDP and is trending upwards. Further, based on our research, we believe digital payments, led by UPI, cards and IMPS, would penetrate faster than other pay modes such as ECS, NEFT and RTGS and could also cannibalise the use cases of other pay modes such as prepaid instruments.

Exhibit 16. Number of digital payments per capita per year (India)

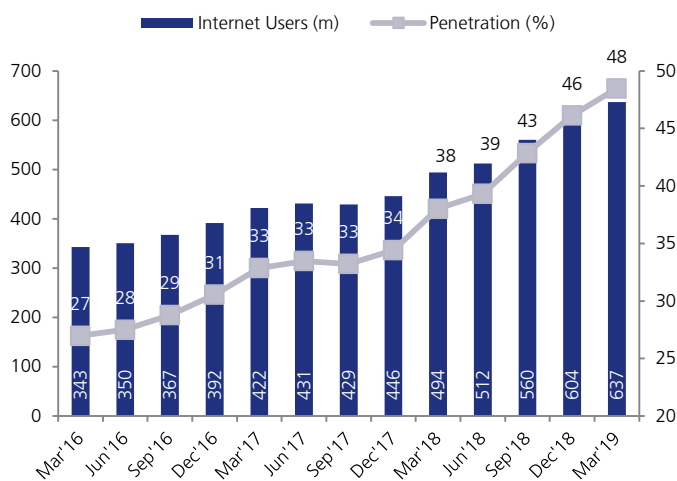
Source: RBI, JM Financial

Exhibit 17. Digital payments value as a % of GDP

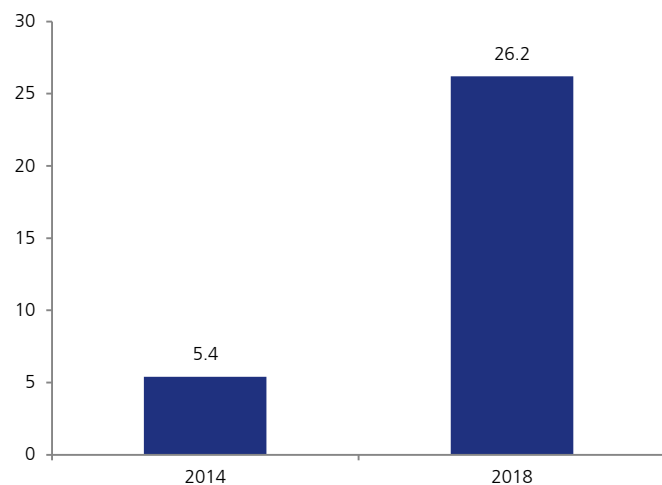
Source: RBI, JM Financial

What is driving digital penetration?

We believe the growing penetration of smartphones/Internet connectivity, aided further by declining data costs, is resulting in a behavioural shift in the way people transact, especially in the urban context and is thus driving the digital payments industry. The trust factor on digital payments however still remains low in rural India and cash continues to be a major mode of transaction. We believe this would pick up slowly in lower-tier cities and rural areas but will penetrate fast in urban/tier-1/tier-2 cities.

Exhibit 18. Growing internet penetration in India

Source: TRAI, JM Financial

Exhibit 19. Number of smartphones per 100 people in India

Source: McKinsey, JM Financial

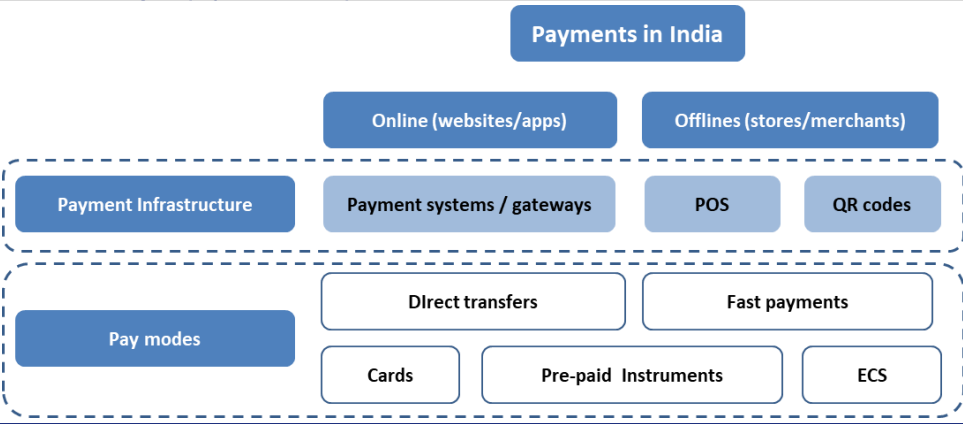
Landscaping the digital payments industry

In our view, India’s digital payments industry can be defined across two major channels: (1) offline digital payments and (2) online digital payments. All non-cash/paper transactions in the payments industry can be categorised into either of these channels. While the online channel incorporates every transaction taking place through a website or an android/ios application, the offline channel incorporates transactions at POS machines or via QR codes at the merchant end.

The infrastructure that supports online transaction modes includes payment gateways (or payment gateway aggregators) while the infrastructure that supports offline modes includes physical POS machines and QR codes. For the various infrastructures combined, there are common pay modes via which transactions may take place. These include credit and debit cards, mobile wallets, IMPS/NEFT/RTGS, UPI, cash/pre-paid cards, Aadhar Enabled Payment System (AEPS), etc. With improving technology and reach, various pay modes are being enabled across infrastructure/channels. For example, UPI payment option, which used to be a standalone mobile-only pay mode, is now also available through QR codes, POS machines and payment gateways.

Our focus in this report lies largely on payment gateways, POS and QR codes in terms of infrastructure and on UPI, cards and mobile wallets in terms of payment modes. For the purpose of this report, we have not detailed traditional digital banking pay modes such as ECS and direct transfers.

Exhibit 20. Digital payments set-up in India



Source: JM Financial

Sizing the digital payments market

For sizing the digital payments market, we chose to stick to RBI's definition of digital payments which includes pay modes such as RTGS, credit/debit cards, NACH (National Automated Clearing House), ECS, UPI, NEFT, IMPS and PPIs. From our understanding of the market and discussions with several players operating in the space, we expect UPI to record the highest growth in digital payments space in volume terms and outpace other instruments. We think total volume growth in card payments would be driven by increasing POS penetration, while the use of traditional digital pay modes (except IMPS) would increase nominally. Interestingly, our discussions with digital payment companies indicate that UPI is slated to impact growth of prepaid instruments (PPIs) meaningfully.

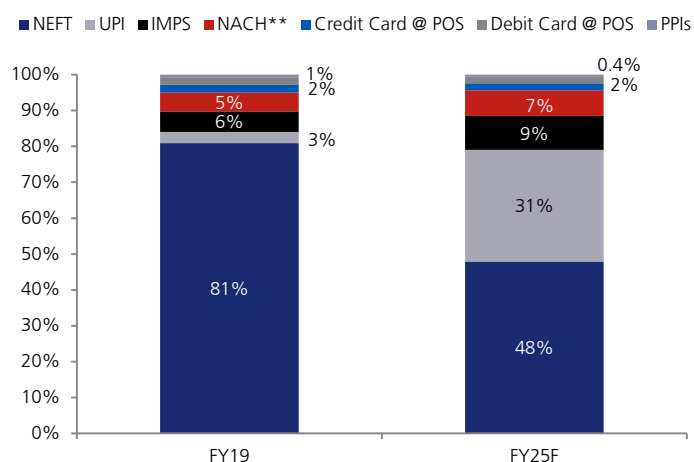
Our forecasts suggest that digital payments will be an INR 2,875tn (USD 41tn) market by FY25E, posting a CAGR of 12% over FY19-25E. While RTGS will continue to account for the largest proportion of digital payments, it would witness the lowest growth, impacting its growth trajectory.

Exhibit 21. Digital payments market size (INR tn)



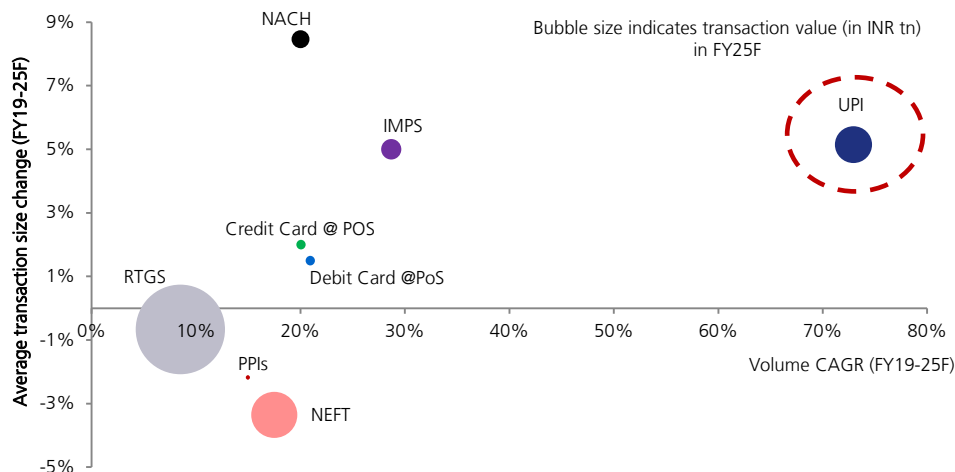
Source: RBI, JM Financial Estimates

Exhibit 22. Digital payments value market share (excluding RTGS)



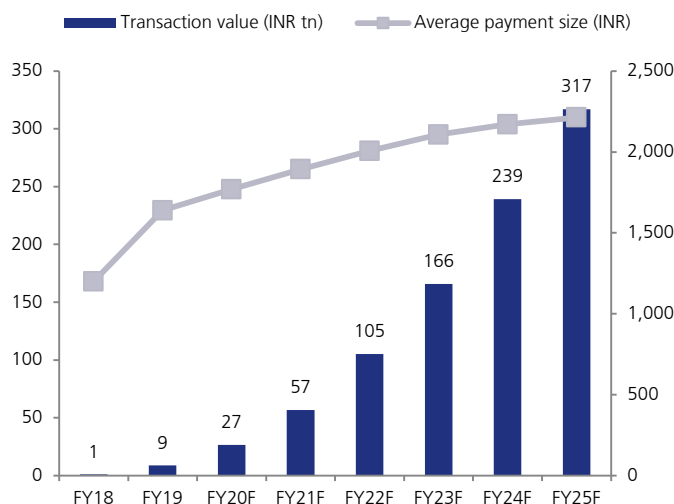
Source: RBI, JM Financial Estimates. Note: We have excluded RTGS from this exhibit as the payment is likely used for big ticket transactions by businesses.

Exhibit 23. Size and likely growth trend in different pay-modes

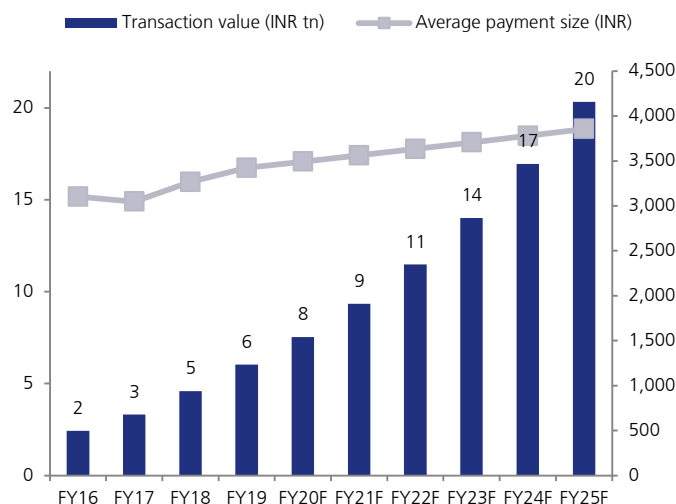


Source: JM Financial

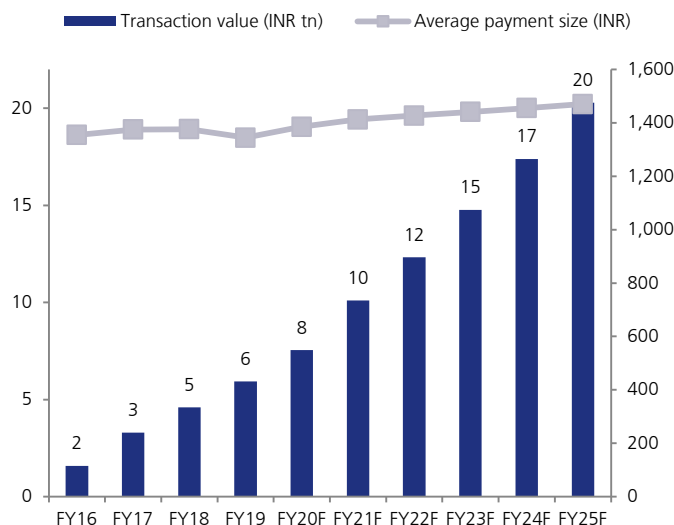
Evidently, growth in the digital payments market is being driven by new-age payment methods. With the government's push and improving infrastructure, we believe this growth will further pick up. Excluding traditional digital payment modes such as RTGS and NEFT, we believe the digital payments market would post a 47% CAGR until FY25. While UPI-based payments are likely to witness the most robust growth in this period, we expect PPIs to be directly impacted and hence grow the slowest.

Exhibit 24. UPI: Payments and average payment size

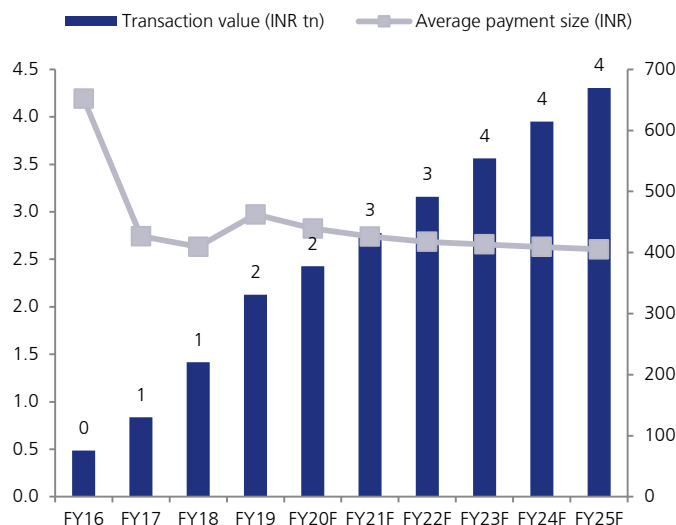
Source: JM Financial

Exhibit 25. Credit Cards: Payments and average payment size

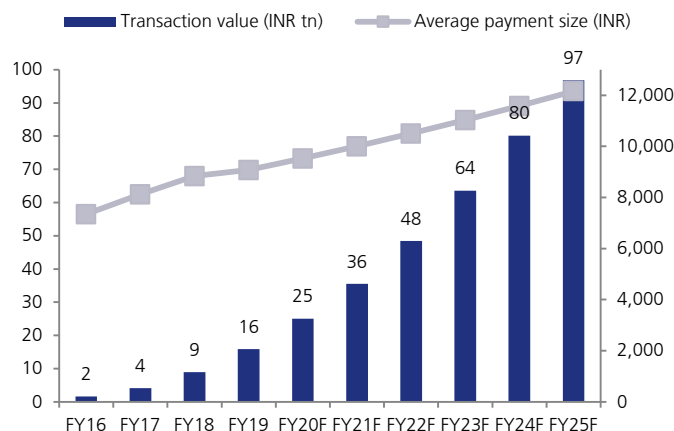
Source: JM Financial

Exhibit 26. Debit Cards: Payments and average payment size

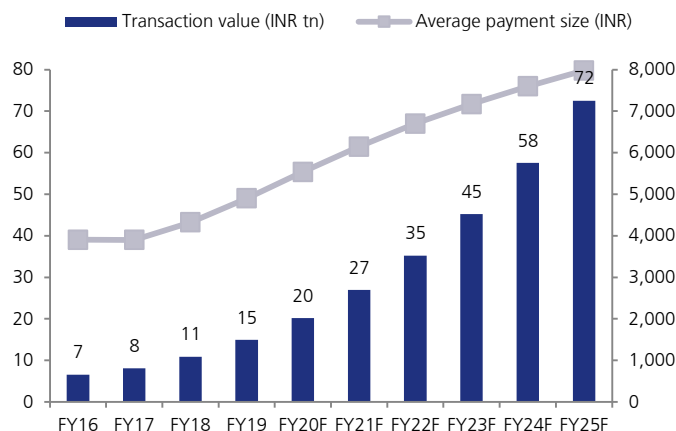
Source: JM Financial

Exhibit 27. PPIs: Payments and average payment size

Source: JM Financial

Exhibit 28. IMPS: Payments and average payment size

Source: JM Financial

Exhibit 29. NACH*: Payments and average payment size

Source: JM Financial * includes ECS

Digital payment infrastructure

Exhibit 30. Segmenting the business-wise infrastructure support

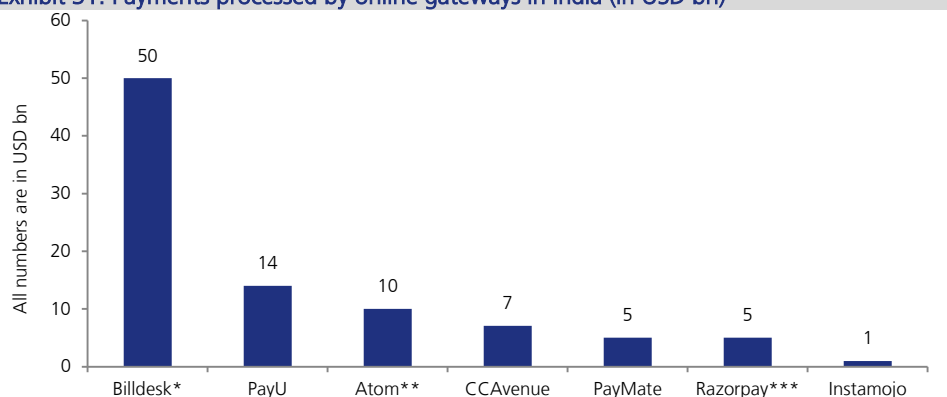
| | Online | Offline |
|------------------|---|---|
| Large businesses | <p>Total number of businesses: ~0.5 million</p> <p>Digital Penetration: Very High (limited opportunity)</p> <p>Digital payment infrastructure: Payment gateways</p> <p>Payments gateways owned by: Big banks and private players such as PayU, CCAvenue, Razorpay etc.</p> <p>Way ahead for incumbents/new entrants: Grow total processed volume and target market share of peers</p> | <p>Total number of businesses: ~1.5 million</p> <p>Digital Penetration: High (limited growth opportunity)</p> <p>Digital payment infrastructure: PoS machine, QR code</p> <p>Acquiring solutions provided by: Majorly by big four banks (HDFC, ICICI, Axis and SBI)</p> <p>Way ahead for incumbents/new entrants: Offer value added services like software to bypass schemes when acquirer/issuer is same, enable EMI facility for brands</p> |
| Small businesses | <p>Total number of businesses: Not measurable, as mostly resellers on e-commerce platforms</p> <p>Digital Penetration: Not measurable (opportunity for growth exists though)</p> <p>Payments processed by: NA</p> <p>Payments gateways owned by: NA</p> <p>Way ahead for incumbents/new entrants: NA</p> | <p>Total number of businesses: 40-45 million</p> <p>Digital Penetration: Extremely low (huge opportunity for growth)</p> <p>Digital payment infrastructure: PoS machine, QR code</p> <p>Acquiring solutions provided by: MsSwipe, BharatPe</p> <p>Way ahead for incumbents/new entrants: Drive penetration via mPoS /QR deployment and differentiated services targeted for small merchants</p> |

Source: MsSwipe, JM Financial

We met Mr. Manish Patel, Founder MsSwipe, who shared his understanding of the digital payment infrastructure available for various size and type of business

- **Payment gateways** provide a technology infrastructure through which online transactions (either through cards, net banking or mobile wallets) made by customers on a merchant's platform are processed. Traditionally gateways were owned by banks, though off late companies offering aggregation services (discussed in next paragraph) also operate their own payment gateways.
- **Payment gateway aggregators** tie-up with multiple payment gateways and pay modes that enables them to operate like a one-stop solution for online merchants looking to offer a wide range of payment options to their customers, without much setup investment. The aggregators also increase the probability of a transaction succeeding as they help the merchant immediately switch between two payment gateways during downtimes. Merchants also benefit from the value of added services such as settlement services, fraud detection, customer analytics, EMI/pay later option enablement, etc. that these aggregators offer. Due to these inherent benefits, payment aggregators today have become very popular among online businesses. Leading payment gateway aggregators in India include CCAvenue, PayU, Billdesk, Paytm, Instamojo and Razorpay.

Exhibit 31. Payments processed by online gateways in India (in USD bn)



Source: Media Reports, Company Websites, Infibeam Presentation (1QFY20), JMFL.

*Billdesk number likely includes offline bill payments processed through agents

** Atom has omni-channel presence and therefore both online and offline payments are likely included in its numbers

*** Razorpay numbers are on annualized basis

Digital payments processed through online gateways in India could range at USD 70-80 bn according to our estimates.

- **Offline payment solution providers:** These companies provide PoS terminals and QR code solutions to merchants to help them accept offline digital payments through a customer's card (debit/credit), mobile wallet or UPI account. Banks have traditionally been POS providers to businesses, but companies such as Pine Labs and Mswipe have amplified the adoption of POS machines and even players such as Paytm are now entering the space. Additionally, QR code as a digital payment solution was introduced by Paytm in 2015 and the concept has been replicated by most payment companies as a key payment mode.

How QR codes fuelled the momentum in cashless payments?

Improving smartphone and Internet penetration in the country, which has witnessed tremendous growth in past 5 years, led to a unique payment option. In 2015, Paytm introduced quick response (QR) codes, which are machine readable codes that facilitate payments to specific merchants/entities upon scanning. Paytm hired 10,000 field agents and started pushing QR codes as an offline payment option. Loaded with numerous use-cases, QR codes immediately became popular, allowing a zero-cost option for the merchant along with a hassle-free way to accept payments via smartphones. QR codes not only helped deepen the reach of digital payments but also improved margins for small merchants. Currently, various businesses (such as local kirana stores, auto-rickshaws, fast-food joints, etc.) that traditionally did not accept digital payments have adopted QR codes as a payment option. According to a [media report](#), Paytm has over 13 million merchants on board now and plans to add 12 million more by end of FY20.

Pay-modes which enable digital payments

- **Direct transfers:** Launched in 1997, Electronic Fund Transfers (EFT) was the first one-to-one funds transfer service offered by the RBI; it allowed individuals/institutions to transfer funds from one bank account to another, irrespective of bank and branch. This service was limited to only a few centres in the country and therefore was later replaced by RBI with the more efficient service National Electronic Fund Transfer (NEFT) in 2005. Both these services settle the transfers in predefined periodic batches. In 2004, the RBI introduced the Real Time Gross Settlement (RTGS) service that settled transfers above INR 0.2mn in real time. But a common limitation to all these services is that they work on specific working hours and days only. To enable transfer of funds even during non-banking hours/days, the Immediate Payment Service (IMPS) was first introduced in Nov'10 by the NPCI. The service enabled immediate bank to bank transfer 24*7*365. But a point to note is that the service can only be offered by RBI-licensed banks and prepaid payment license holders. IMPS service is offered by 558 banks & PPIs, as of Sep'19.
- **Electronic clearing services (ECS):** These are pre-authorised auto credit/debit transactions that primarily enable one-to-many payments (e.g. dividend/salary payments by a company or payment of subsidies by the government) and many-to-one payments (e.g. utility or life insurance renewal premium payments). While RBI and NPCI currently operate their own electronic clearing services, the latter's service National Automated Clearing House (NACH) is fast replacing the former's ECS as it is faster and also more efficient. The payee can give standing instructions for the transactions (which are similar to cheques) either through a digital signature (based on eSign with Aadhaar), net banking, debit card or wet signatures.
- **Cards:** Despite the presence of credit and debit cards spanning over several decades, India has one of the lowest penetrations of cards. Some of the reasons for this under penetration are: 1) low PoS ownership among merchants due to hardware and transaction costs, 2) low ATM penetration outside the urban areas, 3) associated costs of owning a credit/debit card, 4) financial fraud, 5) tax evasive practices and 6) preference for cash. Interestingly, debit cards issuance is significantly higher than that of credit cards and card transactions (volumes) at ATMs far exceed those at PoS machines. The three most prominent card networks that operate in India are 1) RuPay (owned by NPCI), 2) Master Card and 3) Visa. Of late, we believe the shift in buying patterns from offline to online is helping increase the popularity and penetration of cards.
- **Prepaid instruments:** PPIs such as mobile wallets, prepaid cards and paper vouchers facilitate the quick transfer of electronic funds between peers and/or for purchase of goods/services. The most popular amongst the three, mobile wallets, was first introduced in 2008 by Oxigen. Since then, RBI has issued licenses to a host of companies such as specialised wallet operators, banks, NBFCs and ecommerce companies to operate their own mobile wallets. However, due to immense competition, growing user preference for UPI and concentrated funding support for a few, many wallet owners have either surrendered their license to the RBI or have opted for the M&A route. Currently, Paytm, Mobikwik, Freecharge, HDFC PayZapp, ICICI Pockets, and PhonePe, are some of the most prominently used mobile wallets in the country.
- **UPI - fast payments:** Just like IMPS, UPI enables immediate bank to bank transfer 24*7*365 and was introduced by NPCI in Aug'16. However, the pay mode is much simpler and easy to use as it does not require too many payee details; offers additional use cases such as 'make collect requests', 'immediate merchant payments' online as well as offline and 'utility and other bill payments'. Today, UPI is the most popular digital payment services in India today, in volume terms. The service not only helps manage several bank accounts through a simple mobile application but can also be offered payment applications such as Google Pay, PhonePe, and Paytm, among others. The service which is offered by 141 banks, as of Sep'19, crossed 1 billion monthly digital payments in Oct'19.

Business economics for digital payments enablers

We spoke and met in person with several industry experts (payment aggregators, banks, wallet companies, etc.) to understand the business economics for different types of digital payments enablers. Based on these discussions, we understand that while P2P transactions have grown substantially over the last few years (especially after the emergence of mobile wallets and UPI), P2M payments remain the key driver for these companies to build a scalable and sustainable business over the long run. This is primarily because P2M payments are relatively less sensitive to transaction costs as compared to P2P payments. We thus restrict our discussion to P2M transactions in this section.

A merchant incurs a wide range of fixed, variable and optional costs while accepting payments in the digital form. While the fixed costs include a one-time set-up fee and annual/monthly maintenance charges paid to the payment gateway or a POS supplier, the variable cost, merchant discount rate (MDR), is deducted by the merchant's bank (acquiring bank) before settling the payment in the merchant account. The MDR is the most important factor in the digital payments ecosystem and is shared between up to four major digital payments enabling players (acquirer bank, issuer bank, payment gateway and the scheme/network) depending on the pay-mode used by the merchant's customer. The optional costs depend on value-added services such as fraud detection, EMI, pay later, website creation and maintenance, among others, availed by the merchant from the payment gateway.

Exhibit 32. Fixed costs and binding commitments for merchants

| | Payment gateway | PoS Solutions | Quick Response Code (QR) |
|----------------------------|---------------------|--------------------|--------------------------|
| Setup fees | INR 10,000 - 25,000 | INR 5,000 - 15,000 | Generally Nil |
| Annual maintenance charges | INR 5,000 - 20,000 | INR 3,000 - 5,000 | Generally Nil |
| Minimum commitment | Generally required | Generally required | Not required |

Source: Company websites, Industry experts, JMFL

Exhibit 33. MDR pricing for merchants varies from one pay-mode to another

| Payment mode | Per transaction charge for merchants | Comments, if any |
|---|--------------------------------------|--|
| Credit cards | ~2% | Significantly higher charges for Amex and international cards |
| Mobile wallets | ~2% | |
| Net banking | ~2% | Can also be a fixed amount per transaction |
| Debit cards/UPI: <= INR 2,000 per transaction | Zero | RBI reimburses the charges to the acquirer on behalf of the merchant |
| Debit cards: where merchant turnover is <= INR 2mn in previous fiscal | 0.4% (if QR 0.3%) | RBI mandated, max. INR 200 per transaction |
| Debit cards: where merchant turnover is > INR 2mn in previous fiscal | 0.9% (if QR 0.8%) | RBI mandated, max. INR 1,000 per transaction |
| UPI: > INR 2,000 per transaction | 0.3% | NPCI mandated, max. INR 100 |

Source: RBI, NPCI, Media reports, Company Websites, JMFL

Exhibit 34. An illustrative example of how payments costs impact merchant payments

| Description | All numbers are in INR |
|---|------------------------|
| Purchase value of customer through credit card | 1,000 |
| Payment gateway charges (2% of transaction value) | 20 |
| Tax on payment gateway charges (18% GST) | 3.6 |
| Net payment received by merchant | 976.4 |

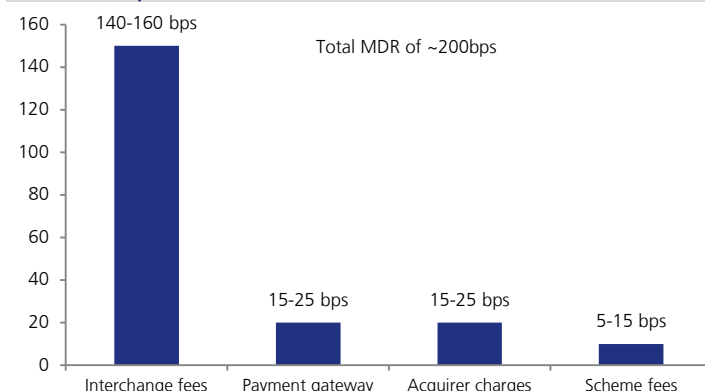
Source: Company websites, Industry experts, JMFL

MDR pricing for merchants

For credit cards, the MDR is finalised by the acquiring bank/payment gateway after taking in to account the interchange fees (issuer commissions) and scheme fees (VISA/Master/NPCI). On the other hand, MDR is fixed by the RBI and NPCI for debit cards and UPI, respectively, in

order to encourage digital payment acceptance by merchants. In fact, in certain cases (transaction value is $\leq 2,000$) the RBI and banks subsidise the cost to merchants.

Exhibit 35. Split of credit card fees earned from merchants

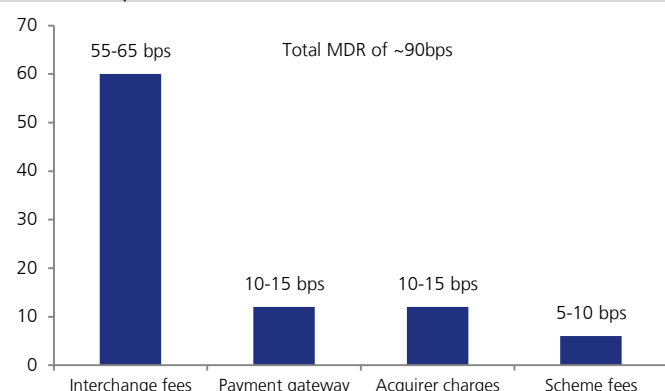


Source: Media reports, Company websites, Industry experts, JMFL

Note 1. Actuals may differ based on company, customized merchant agreements, type of cards etc.

Note 2. MDR, number of digital payments enablers and the actual fee share varies between pay-modes

Exhibit 36. Split of debit card fees earned from merchants



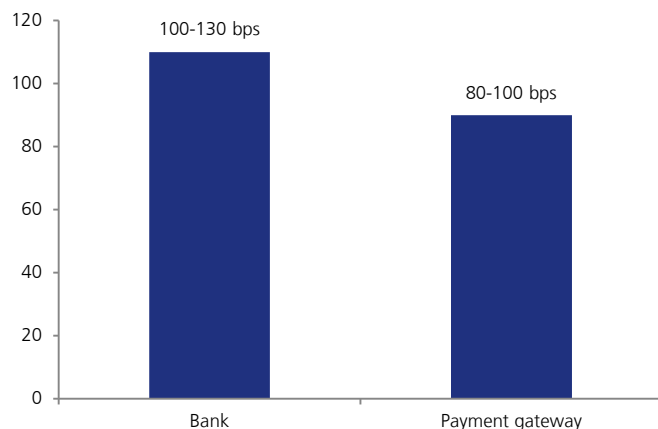
Source: Media reports, Company websites, Industry experts, JMFL

Note 1. Actuals may differ based on company, customized merchant agreements, type of cards etc.

Note 2. MDR, number of digital payments enablers and the actual fee share varies between pay-modes

Our interactions with industry experts also indicate that payment gateways earn the highest per-transaction revenue from net banking transactions as there is no scheme involved nor is there any other bank involved in the transaction. Similarly, in the case of prepaid instruments, mobile wallets earn the largest share of fees, which in turn helps them mitigate their own transaction costs incurred when users load money in their accounts.

Exhibit 37. Split of net banking fees earned from merchants

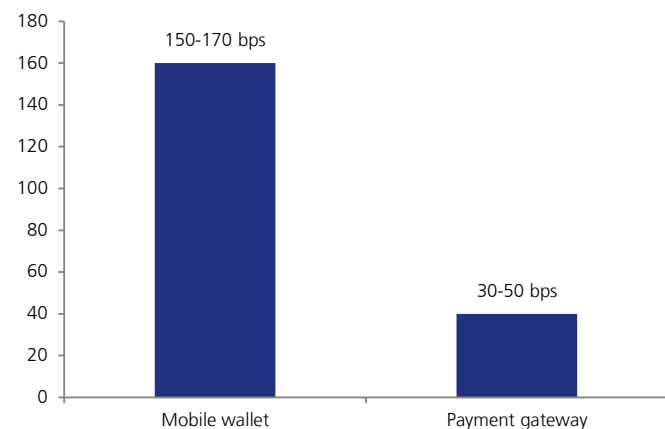


Source: Media reports, Company websites, Industry experts, JMFL

Note 1. Actuals may differ based on company, customized merchant agreements, type of cards etc.

Note 2. MDR, number of digital payments enablers and the actual fee share varies between pay-modes

Exhibit 38. Split of mobile wallet fees earned from merchants



Source: Media reports, Company websites, Industry experts, JMFL

Note 1. Actuals may differ based on company, customized merchant agreements, type of cards etc.

Note 2. MDR, number of digital payments enablers and the actual fee share varies between pay-modes

As part of its campaign to encourage digital payments, NPCI has been promoting the usage of Rupay cards and UPI payments and accordingly charge the lowest MDR for their products.

Exhibit 39. Latest MDR for Rupay debit cards and UPI P2M payments

Rupay debit card

| Acquiring mode | Transaction (INR) | MDR | Max. MDR per transaction (INR) |
|----------------|-------------------|-------|--------------------------------|
| PoS/eCom | > INR 2,000 | 0.60% | 150 |
| QR | Any | 0.50% | 150 |

BHIM UPI

| Acquiring mode | Transaction (INR) | MDR | Max. MDR per transaction (INR) |
|----------------|-------------------|-------|--------------------------------|
| QR/eCom | Any | 0.30% | 100 |
| QR | < INR 100 | 0% | Zero |

Source: NPCI, JMFL

We believe the continuing rationalisation of MDR by RBI/NPCI should help digital adoption by new businesses, especially by those which are unorganized and hereto were completely out of the digital loop.

Future of digital payments: Key themes

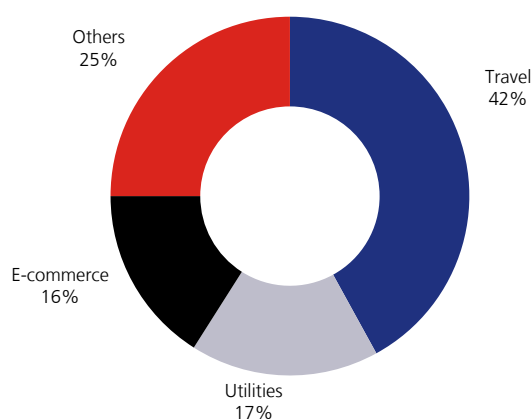
- Evolving use-cases in digital payments
- Positioning of payment gateway aggregators
- PoS deployment – government's digital agenda driving penetration...
- ... and will result in cards driving offline digital transactions
- UPI to lead the growth in online digital payments market
- Will wallets be able to survive the onslaught of UPI?

Evolving use-cases in digital payments

In this section, we discuss the wide range of use cases that have already been aiding and/or have the potential to aid growth in the digital payments industry going forward. We believe the early adoption of P2M digital payments – especially for the online channel – was driven by the travel industry, which simplified customers' ticket booking experiences and accepted payments through cards or net banking in the early years and later on through UPI and mobile wallets. The next leg of adoption was led by e-commerce, movie ticketing and mobile recharge/bill payment companies, which led to a substantial increase in online payment volumes, especially in smaller cities and towns. The latest adoption is driven by online food delivery and cab aggregators. Consequently, while digital payment volumes have continued to soar, we believe a large number of use-cases are still nascent in terms of digital payments. These use-cases include utility payments, financial products/investments (loans, insurance, mutual funds, etc.), education related payments (course/exam fees), toll payments, B2B/G2B money transfers and health/medical services payments.

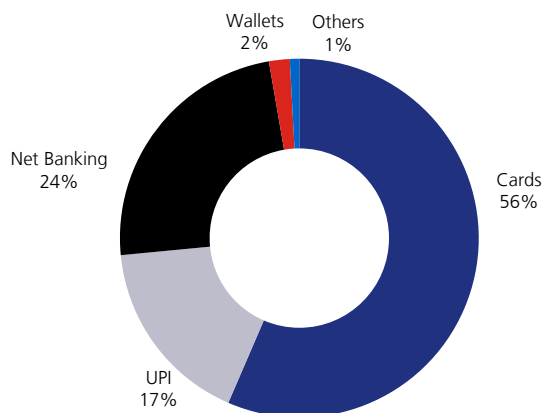
Offline digital payments were primarily driven by large retail outlets, hotels and restaurants in the initial years. Since then, the advent of mobile wallets and UPI has led to a significant surge in payment acceptance across offline merchants especially the mid-level businesses across industries in the urban areas. We believe the next leg of offline digital adoption will be led by small ticket payments (INR 50 to INR 2,000) to small and micro merchants (such as small grocery retailers, vegetable vendors, etc.) and professionals and service providers (such as barbers, auto drivers, doctors, lawyers, etc.). This mammoth market has significant under-penetration in digital adoption, even in large cities.

Exhibit 40. Peer to Merchant (P2M) Online Transactions Share (FY19)






















Source: Razorpay, JMFL. Note: These numbers pertain only to online transactions taking place on Razorpay's platforms.

Exhibit 41. Preferred payment modes: P2M Online Transactions



Source: Razorpay, JMFL. Note: These numbers pertain only to online transactions taking place on Razorpay's platforms.

Exhibit 42. Penetration of digital P2M payments across categories (High / Medium / Low)

| | | | |
|--|---|---|---|
|  Movie Ticketing |  Utility Payments |  Grocery |  Recharge |
|  Money transfer |  Parking |  Insurance |  Education |
|  Dining |  Auto payments |  Fuel |  Health |
|  Investments |  Toll |  White goods |  Taxi / Cab |
|  E-commerce |  Taxes |  Pocket money |  Travel / ticketing |

Source: JM Financial

Note: We believe the next leg of growth will come from areas where penetration is medium-low

Positioning of payment gateway aggregators

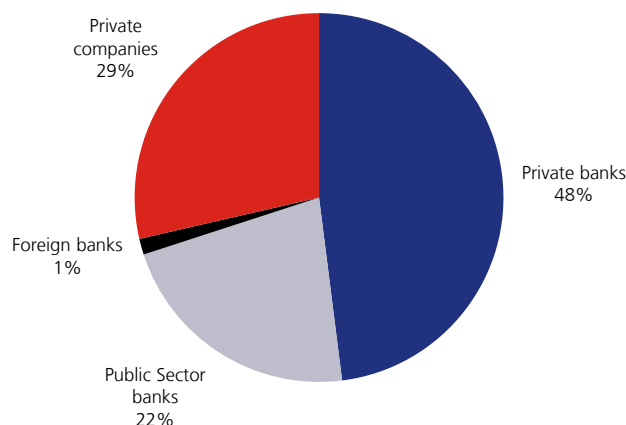
Payment gateways are facilitators of multiple payment options and are responsible entities for dispute resolution between merchants and consumers. In a way, they act as trust partners for both parties and hence an essential intermediary in the value chain. Our discussions with payment gateway operators indicated that apart from the above-mentioned basic service, payment gateway aggregators are providing value-added services such as transaction management and reconciliation. Some aggregators provide detailed information of consumer behaviour and analytics, which can be developed into business insights for merchant partners. While some payment aggregators are sticking to basic unit economics, some are taking cash burn as a method to acquire more merchant partners.

We believe payment gateway aggregators may see a temporary period of lower margins due to stiff competition and initial UPI benefits, but they will continue to form an integral part of the digital payments value chain, while facilitating smooth transactions across various payment modes and entities. A future payment gateway aggregator may provide a lot more value-added services to its merchant/bank partners.

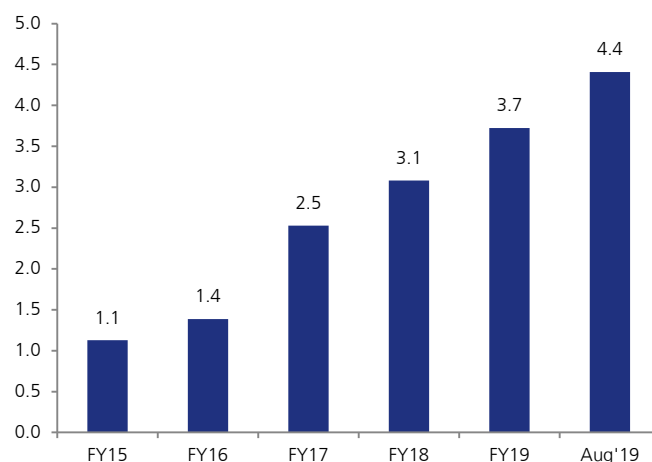
POS deployment – government's digital agenda driving penetration

Although RBI data indicates a significant increase in the adoption of debit/credit cards in the country over the last few years, it also points to a few slightly worrying statistics – their primary usage is for cash withdrawals at ATM machines. ATMs still continue to report a significant share of card use (62% and 74% in volume and value terms, respectively) versus PoS machines. Moreover, debit cards that account for 94% of total issued cards (as of Aug'20), are twice as likely to be used to withdraw cash from an ATM (11 times in FY19) versus a PoS transaction (just 5 times per card in FY19).

While there might be a host of reasons for this type of behaviour – including low financial awareness, limited reach of financial institutions, data connectivity issues in hinterlands, habit of accepting cash, trust deficit in non-cash payment modes and tax avoidance – we believe one of the major factors that drives this is the lack of penetration of PoS machines at micro merchant locations, who account for around 90% of the retail sales in the country. As of FY19, only ~5mn PoS machines were deployed across the country (Exhibit 43) despite a total merchant base of around 40 million ([media report](#)). Our conversations with various PoS suppliers indicate the inherent costs (setup costs/rentals/MDR) associated with deploying a PoS device is the major deterrence for merchants not accepting card payments. Another likely deterrence is the unlawful passing of a portion/ entire MDR charge by merchants to their customers in case they choose to pay by cards.

Exhibit 43. Deployment of PoS terminals in India: Total ~5mn (FY19)

Source: Media Reports, JMFL

Exhibit 44. PoS deployments by banks in India (mn)

Source: RBI, JMFL

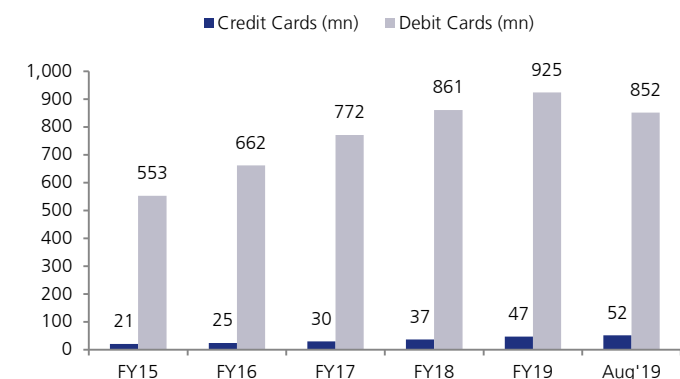
As part of its digital initiative, the central government – through Meity – has set an ambitious target for banks to digitally enable digital payments either through PoS, QR or wallets (~8.5mn merchant locations in FY20 alone). Simultaneously, the government has made it mandatory for businesses with a turnover above INR 500mn to offer digital modes of payment to their customers. The transaction costs arising from all such transactions are likely to be borne by the banks ([media report](#)). This has led to a significant improvement in PoS deployment trends of banks, with 0.7mn PoS machines deployed in the first five months of FY20, versus 0.6mn deployed in the entire FY19. Though the numbers look encouraging, we believe there still exists widespread scope for PoS deployments in the country, especially rural areas and underdeveloped regions like north-east. However, we do note that the business models of payment gateway companies might be affected in case they are not adequately reimbursed for the loss of MDR revenue.

POS penetration to aid higher card transactions

While – in terms of number – active debit cards in India far exceed credit cards (by 16x as of Aug'19, see exhibit 45), the total number of debit card transactions at POS accounts for merely 2.5x of credit card transactions. Several payment companies we spoke with attributed this to a significant proportion of debit cards being issued in tier-2/3/4 cities (as part of the government's digital push), where only a limited number of merchants currently accept cards. Consequently, debit cards until recently were more likely to be used for cash withdrawals from ATMs rather than at POS terminals. We believe lowering of the MDR ceiling for debit card transactions by RBI and NPCI (for Rupay), especially for small-ticket purchases (\leq INR 2,000), along with the government's continued push to increase deployment of POS terminals beyond metropolitan and tier 1 cities, should lead to an increase in merchant acceptance of debit cards. Going forward, this should help increase the use of debit cards at POS terminals.

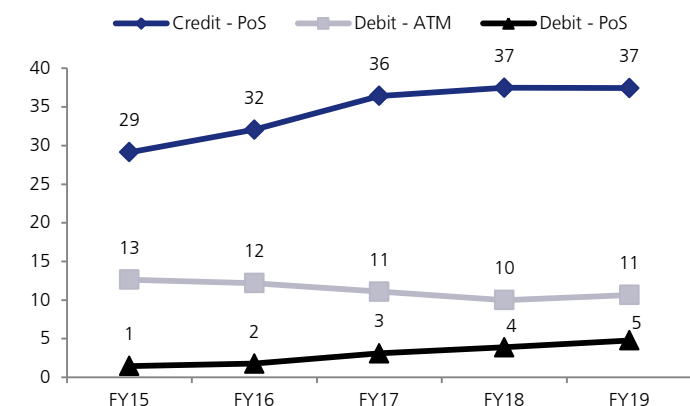
On the other hand, credit card use growth is likely to remain robust on the back of rising consumerism, increasing credit-based purchases, demand from millennial consumers and the lure of rewards, cash-back and other such card-linked benefits.

Exhibit 45. As of Aug'19, debit cards accounted for 94% of the total issued cards in the country



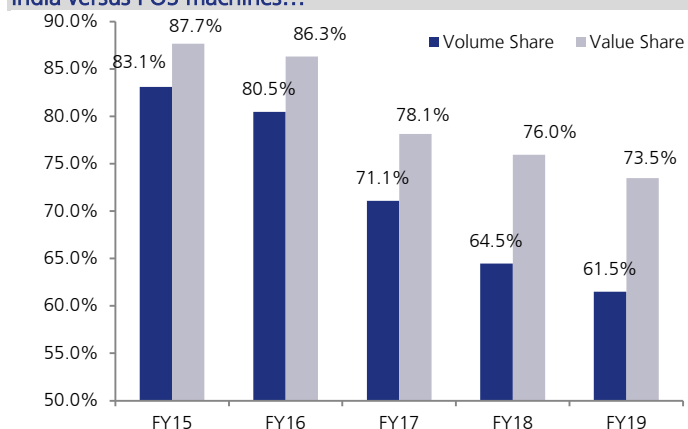
Source: RBI, JM Financial

Exhibit 47. ...mainly because debit cards are twice as likely to be used at ATMs compared with a POS machine



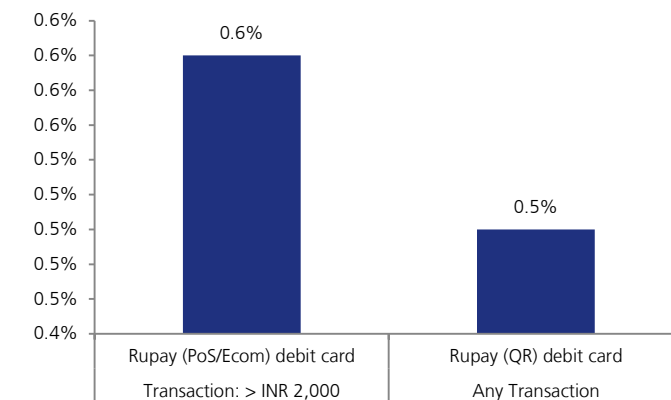
Source: RBI, JMFL

Exhibit 46. ATMs continue to report a higher share of card use in India versus POS machines...



Source: RBI, JMFL

Exhibit 48. Non-Rupay debit and credit cards attract MDR in the range of 0.9-2%, significantly higher than that for Rupay cards

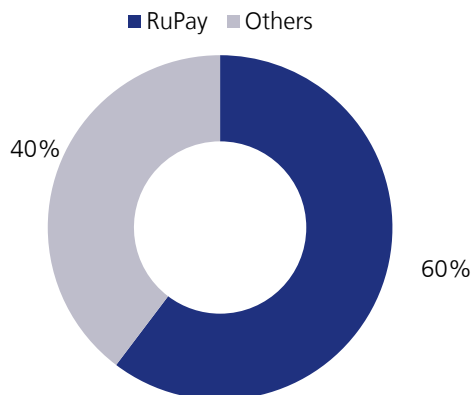


Source: NPCI, Media reports, JMFL

RuPay cards driving penetration and use, especially in lower-tier cities - 'RuPay' which derives its name from 'Rupee' and 'Payments' is a comparatively low-cost rupee-based payment network introduced by the NPCI in Mar'12 as an alternative to global giants Master and Visa. Backed by the government's digital push that includes the financial inclusion programme launched in 2014 and several promotional campaigns, RuPay cards (debit/card) have seen a significant rise in use across India. Today, RuPay cards are widely accepted across the country with around 1,100 international, regional and local banks issuing them; they hold ~60% share of the total 972 million cards issued in India as of Mar'19 (please refer to Exhibit 49). This is primarily due to their inherent attributes such as low transaction costs (since the settlement happens in India itself) and interoperability between various payment channels and products. Moreover, RuPay cards are increasingly gaining popularity in Tier 2/3 towns and cities in India (media report). Internationally too, these cards are accepted by merchants accepting Discover, Diners Card, JCB and UnionPay due to their partnership arrangements with the network.

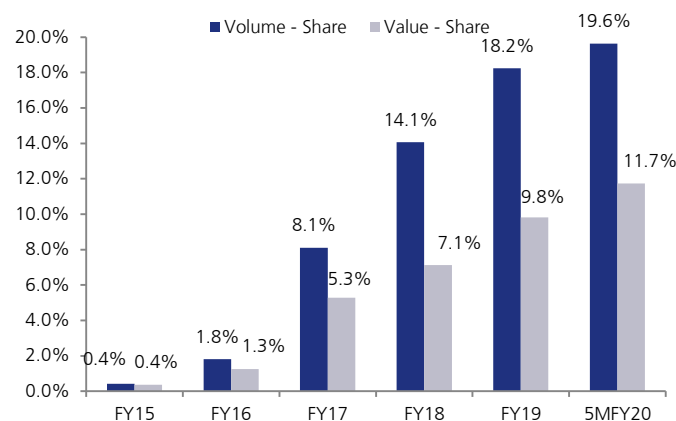
Accordingly, RuPay card use at PoS in India posted a CAGR of 83% and 100% in value and volume terms, respectively, over the last two years, far exceeding industry growth rates of 35% and 18%. It now commands a share of 19.6% and 11.7% in value and volume terms, respectively. On the other hand, global card network leaders Mastercard and Visa are likely losing market share in India and facing data localisation issues ([media report](#)).

Exhibit 49. As of Mar'19, RuPay accounted for ~60% of the total issued cards in India



Source: [Media Reports](#), JM Financial. Note 1: As of Mar'19, a total of 586 million Rupay cards were issued as per RBI.

Exhibit 50. Its share in digital transactions (both value and volume) continues to rise YoY despite being a late entrant



Source: JM Financial

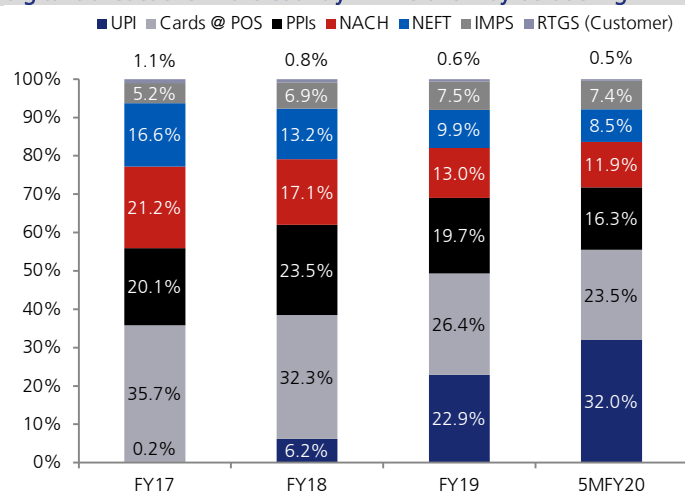
UPI to lead growth in online digital payments market

UPI now a market leader in volume terms - Since its launch in 2016, UPI has been one of the biggest contributors to digital transactions in the country. The payment mode - which crossed 1 billion monthly transactions in Oct'19 ([media report](#)) - now accounts for the highest volume share (32% in 5MFY20) among digital payment methods (in data reported by the RBI/NPCI). Some contributing factors to the success of UPI have been Demonetization, mobile-first approach, instant bank-bank fund transfers, subsidy on transaction costs, growing penetration of mobile phones as well as Internet connectivity and early adoption by a host of fintech start-ups (Google Pay, PhonePe, Paytm, etc.).

The phenomenal increase in UPI volumes can also be attributed to a significant increase in P2M use cases such as bill payments, subscriptions, micro-payments (such as kirana shops) and B2B payments, with the help of the low-cost QR technology.

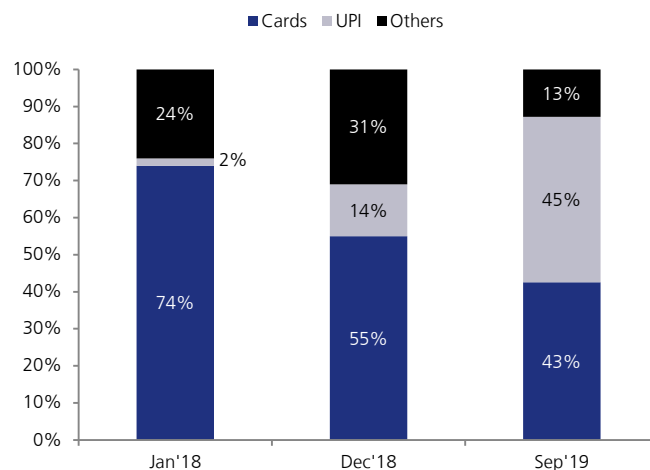
Other factors that we believe are contributing to this growth are an increase in the number of banks offering UPI, the improving success rate of attempted transactions and the growing popularity of UPI payments in Tier 2/3 cities.

Exhibit 51. In volume terms, UPI now accounts for 32% of total digital transactions in the country. While this may be due high...

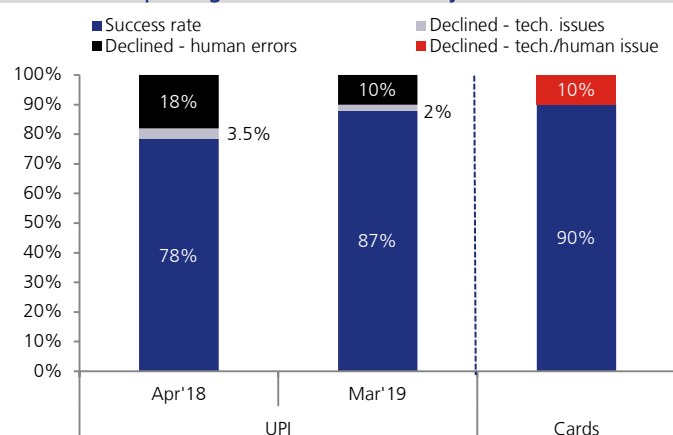


Source: RBI, NPCI, JM Financial

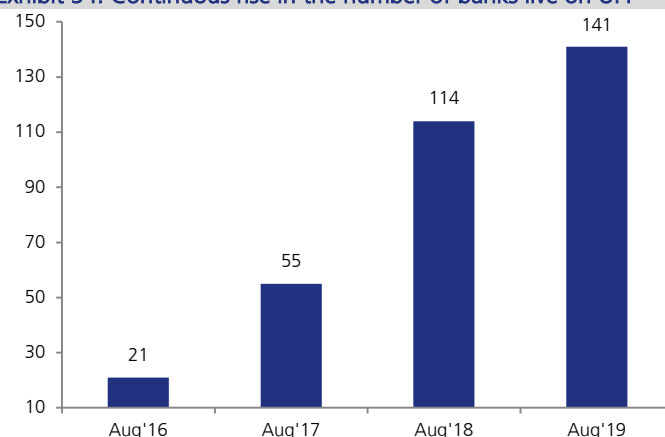
Exhibit 52. ... of small ticket P2P payments, Razorpay data indicates UPI is now also a preferred mode for P2M payments



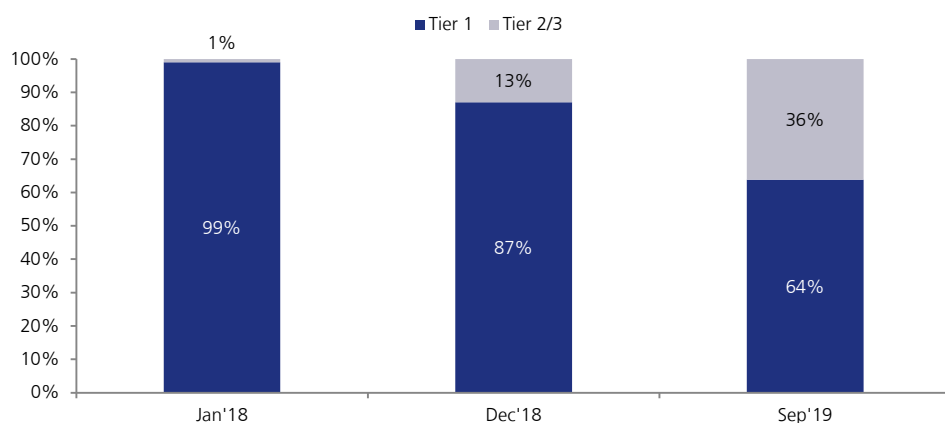
Source: Razorpay, JMFL. Note: These numbers pertain only to online transactions taking place on Razorpay's platforms

Exhibit 53. Improving success rate of UPI Payments

Source: Media Report, JM Financial

Exhibit 54. Continuous rise in the number of banks live on UPI

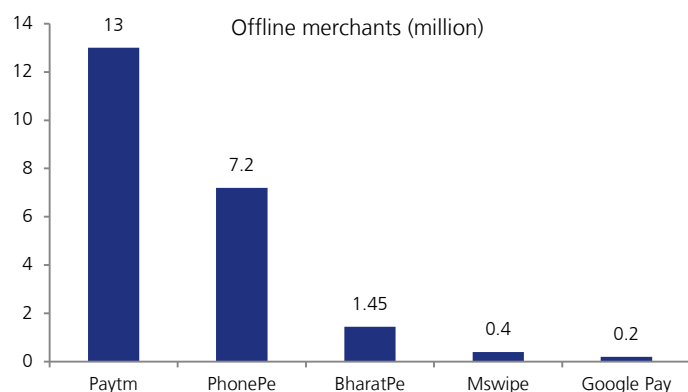
Source: NPCI, JM Financial

Exhibit 55. UPI payments penetrating in tier-2/3 cities as well

Source: Razorpay, JMFL. Note: These numbers pertain only to online transactions taking place on Razorpay's platforms

UPI adoption initially led by P2P payments, more recently by P2M payments - UPI was previously promoted as primarily an instant bank transfer mechanism by NPCI, banks and app owners; it was mobile-based, convenient, more secure and faster than traditional payment modes (cash as well as digital modes such as NEFT/IMPS). This particular use case became extremely popular among early adopters of UPI, especially for P2P payments, after the announcement of Demonetization in Nov'16, waiver of transfer charges by the government on payments worth less than INR 1,000 and the substantial incentives (rewards/cash backs) offered by third-party app owners such as Google Pay (Tez).

On the other hand, the adoption of P2M payments was slower owing to lack of infrastructure penetration (such as QR codes), merchant reluctance due to fear of fraud, lack of knowledge and incentives, the habit of accepting cash and the belief that cash in hand is more fungible. To overcome some of these challenges, the government incentivised UPI acceptance by merchants by waving MDR costs for transactions up to INR 2,000 starting Jan'18 for two years (these costs were then to be reimbursed by the government to banks and other players). Fintech companies too seem to have realised the immense revenue potential in P2M payments mechanisms offered, especially the opportunity to earn commissions through partner banks and leverage the merchant payment collections data to cross-sell and up-sell their/partner company's products and services. Accordingly, they now seem to aggressively acquire small and micro merchants on their own platforms. Consequently, there has been a significant increase in the number of merchants accepting payments through UPI, especially through the QR code mechanism.

Exhibit 56. Offline merchants on-boarded by UPI players - latest

Source: Media Reports, JMFL.

Note 1: Merchants are not necessarily exclusive.

Note 2: Our interaction with industry players indicate around 50% of the total reported merchants are generally inactive.

Exhibit 57. UPI-based P2M payments - market share (May'19)

Source: Media Report, JM Financial. Note: Competitors of Paytm dispute these numbers.

UPI P2M payments - A more value-based proposition for fintech companies - As discussed in the previous section, the initial wave of UPI adoption was led by P2P transfers, but the recent surge is driven by a substantial jump in online as well as offline P2M use cases. UPI facilitators (fintech apps) – which were earlier focused on increasing their subscriber base and collecting their transaction data through promotional campaigns – have now started aggressively investing in developing new use cases such as bill payments, subscriptions, micro-payments (such as kirana shops) and B2B payments, with the help of the low-cost QR technology. A further push has come from the RBI's Oct'18 directive on interoperability across prepaid instruments; this has eased the offline payments process at merchant locations.

Moreover, fintech companies are now also experimenting with UPI-based value-added products for merchants. BharatPe – a recent entrant in the UPI payments space – offers small-ticket and/or small-duration loans to micro merchants by gauging their repayment ability based on transaction data collected by its QR codes. It is also now creating other merchant-specific use cases such as business insurance. We believe the value proposition created by such services is important for these merchants, who generally have limited access to traditional financial services to expand/secure their business, even if they are operationally stable.

NPCI considering capping the market share of apps and banks within the UPI ecosystem

At the time of UPI's inception in 2016, there were only around 15 apps that offered its payment interface. Today, there are more than 100 apps (owned by third-party fintech companies/ banks) that have enabled the UPI payment interface. While individual market share details are not reported officially, a media report indicates that large-pocketed players such as Google Pay, PhonePe and Paytm together account for 89-90% of total UPI transactions in both volume and value terms. We believe this is because third-party app owners have been continuously running promotional campaigns, have an advanced user interface and offer a wide range of use cases (such as mobile/utility payments).

Along similar lines, while there were 141 banks live on the UPI network as of Aug'19, only a few banks such as Yes Bank, Paytm Payments Bank, SBI Bank, ICICI Bank, HDFC Bank and Axis Bank process a major chunk of the payments ([media report](#)). One of the primary reasons for this concentration is that the leading third-party payment apps work with only a few banking partners (1-4 each).

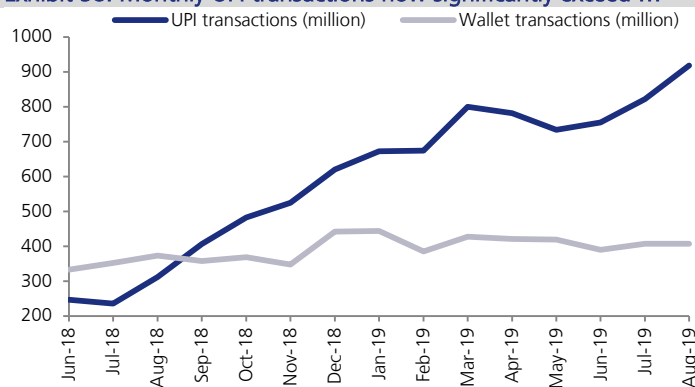
To avoid the UPI payments ecosystem being dominated by a few app owners and banks, the NPCI is considering capping the maximum share that each player can hold to 33%. However, we note that the exact details on the implementation of such a cap have not been finalised ([media report](#)).

Will wallets be able to survive the UPI onslaught?

After Paytm tied up with Uber, the use-case of mobile wallets as a payments mechanism started becoming accepted/popular across the country. This success – however small – led to an industry-wide belief that the wallet-based payments business had wide scope to grow, with numerous opportunities across other industries such as utility/mobile bill payments, ticket bookings, e-commerce, financial services, etc. Sensing a lucrative business opportunity, several wallets started business over the next few years. The popularity of wallet-based payments grew further due to an exponential growth in the number of smartphone/Internet users over the next few years as well as the cash crunch during Demonetization.

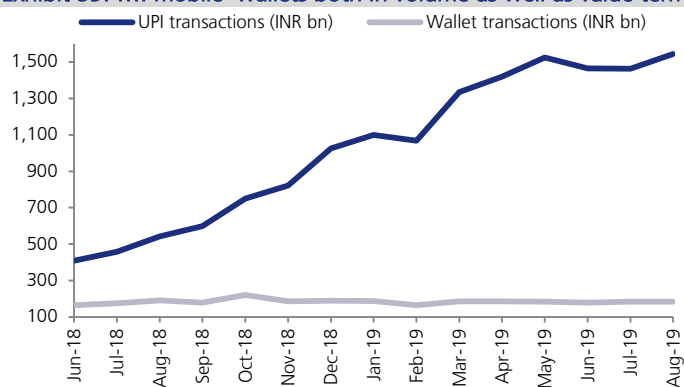
The launch and growing acceptance of UPI has changed the payments business drastically over the last 2-3 years. UPI allows real-time payments with inter-operability across multiple bank accounts and without the need to share/enter bank account details. It also overcomes one of the biggest drawbacks of mobile wallets which is, no interest is earned by account owner on the stored value of money. Wallet companies also charge a transaction fee in case the owner of the wallet transfers money from wallet to bank account, which makes wallet money less fungible. On the other hand, in UPI transactions, the transaction amount is directly transferred from one bank to another, meaning the value transferred continues to earn interest either for the transferor/transferee. Moreover, cash in bank is more fungible than mobile wallets that even today have limited use cases. These attributes make convincing people, especially small merchants, to accept payments through UPI easier. Consequently, while UPI has already crossed 1 billion monthly transactions ([media report](#)), wallet transactions are still stagnating (at ~400 million as per the RBI data reported over the past 6 months). That said, even today, several people are not comfortable linking their bank accounts with UPI and continue to prefer wallets for convenience, [according](#) to Vijay Shekhar Sharma (Paytm founder). While we believe UPI will continue to cannibalise mobile wallet transactions, it remains to be seen how large wallet companies – especially Paytm – adopt to this change.

Exhibit 58. Monthly UPI transactions now significantly exceed ...



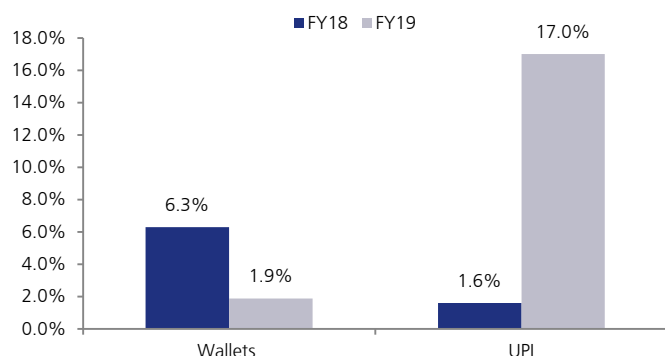
Source: RBI, NPCI, JMFL

Exhibit 59. mobile wallets both in volume as well as value terms



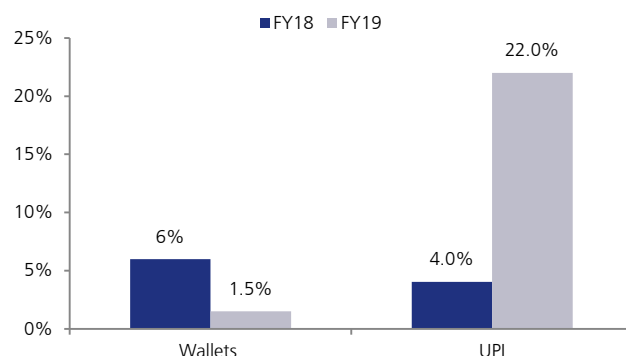
Source: RBI, NPCI, JMFL

Exhibit 60. Popularity of UPI over wallets continues to increase for...



Source: Razorpay, JMFL. Note: These numbers pertain only to online transactions taking place on Razorpay's platforms.

Exhibit 61.P2M payments as well as P2P payments



Source: Razorpay, JMFL. Note: These numbers pertain only to online transactions taking place on Razorpay's platforms.

Exhibit 62. Characteristics of digital pay modes

| Pay mode | RTGS | NEFT | IMPS | UPI | Credit & debit Cards | Mobile Wallets |
|---|----------------------------------|----------------------------------|--------------------------------|---|---|-------------------------|
| Operated/regulated by | RBI | RBI | NPCI | NPCI | NPCI (Rupay), RBI (Others) | RBI |
| Service offered by | Banks | Banks | Banks, Mobile wallet companies | Banks, UPI apps (in partnership with banks) | Banks | Mobile wallet companies |
| Operational hours | 8 AM - 4.30 PM (Working days) | 8 AM - 7.00 PM (Working days) | 24 * 7 * 365 | 24 * 7 * 365 | 24 * 7 * 365 | 24 * 7 * 365 |
| Transaction settlement | Real time (max. upto 30 mins) | Same day (up to a few hours) | Instant | Instant | Instant | Instant |
| Retail transaction limit (per transaction) | > INR 0.2 mn to <= INR 1mn | <= INR 1 mn | <=INR 0.2mn | <= INR 0.1 mn | Depends on bank and card type | <= INR 0.1 mn |
| Information required | Acct. number & IFSC code | Acct. number & IFSC code | Acct. number & IFSC code | VPA & MPIN | Offline: Card PIN Online: CVV & MPIN | Login details/MPIN |
| Interest earned | ✓ | ✓ | ✓ | ✓ | ✓ | X |
| Beneficiary Registration required | ✓ | ✓ | ✓ | X | X | X |

Source: RBI, NPCI, Media reports, JMFL

Government's smart initiatives for digital payments

Bharat BillPay Service (BBPS) – Anytime anywhere

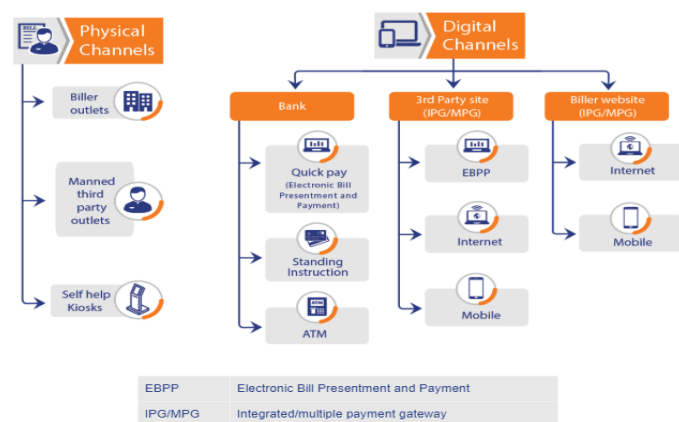
Launched in 2016, Bharat BillPay is a bill payment service operated by the NPCI; it integrates physical as well as online payment channels for a wide range of recurring payments such as telecom (mobile/landline), electricity, gas, direct-to-home (DTH), credit cards and insurance.

A typical BBPS includes licensed payment companies operating a one-stop solution retail kiosk (through their own agent network) where bill payments from walk-in customers are accepted on behalf of a range of BBPS billers across different bill categories through a range of digital payment options (apart from cash) such as credit cards, debit cards, UPI, mobile wallets, IMPS and NEFT, which are then processed by the NPCI.

The billers benefit from the service as they are not required to operate their own physical payment counters (across geographies) and pay flat commissions (to NPCI/agents). On the other hand, customers benefit as they can make payments for several billers in just one single visit and at one particular location itself, are not restricted by available payment acceptance modes and BBPS facilitates dispute management and complaints.

Finally, the facility also enables collection of all bills online, thus benefitting both billers and customers. While the current scope of BBPS is limited to a few categories, demand to expand the scope and coverage of the service continues to grow ([media report](#)).

Exhibit 63. Physical and digital bill payment channels in India



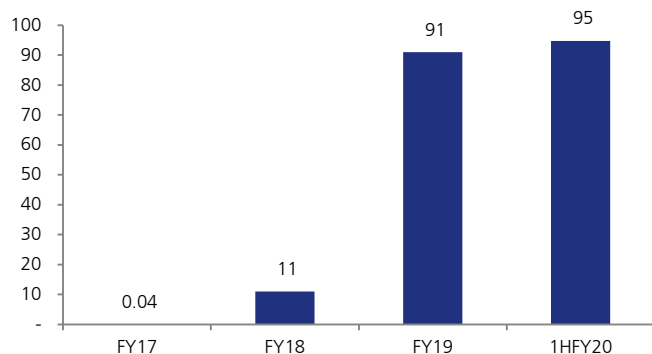
Source: Bharat Bill Payment System

Exhibit 64. Existing and emerging categories in BBPS



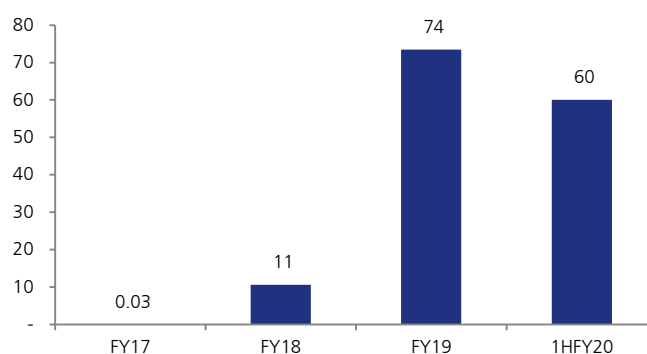
Source: Bharat Bill Payment System

Exhibit 65. BBPS payments in value terms (INR bn)



Source: NPCI, JMFL

Exhibit 66. BBPS payments in volume terms (million)



Source: NPCI, JMFL

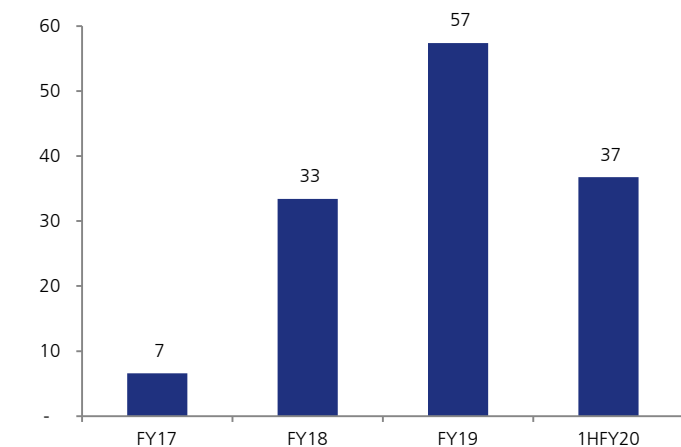
National Electronic Toll Collection (NETC; FASTag)

The NPCI introduced a nationwide electronic payment solution in Apr'16 under the FASTag brand for payments at toll plazas. The solution involves affixing a radio frequency identification technology enabled device (provided by a few select banks in lieu of a fixed deposit) on the windshield of the vehicle which automatically deducts toll charges (irrespective of which company manages the toll plaza) from the device owners linked

prepaid wallet. This helps reduce the requirement to carry cash at toll plazas, saves a significant amount of the time for drivers and improves the fuel efficiency of their vehicles.

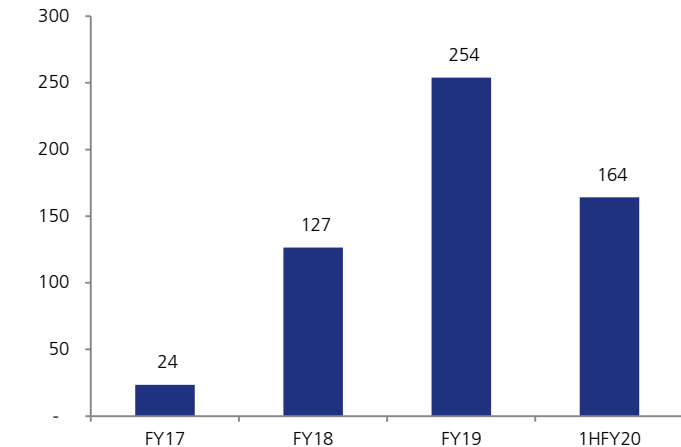
While the mechanism is operable across more than 525 toll plazas in the country as of Aug'19, it is likely to be made mandatory by the government at all toll plazas on the national highways ([media report](#)) such that all lanes at the toll plazas will be FASTag enabled. Moreover, vehicles that are not FASTag enabled are likely to be charged double the normal toll fees, which will likely lead to faster adoption and a significant increase in digital volumes, especially for PPIs.

Exhibit 67. FASTag collections (in INR bn) have continued to soar since its launch in Apr'16...



Source: NPCI, JMFL

Exhibit 68. ...while volumes (million) have reported even faster growth during the same period



Source: NPCI, JMFL

National Common Mobility Card – one nation, one card for convenient mobility

In Mar'19, India launched the National Common Mobility Card that can be used across the country for seamless mobility payments (contactless payments) for local travels, tolls and parking fees in addition to retail payments (both offline and online) and cash withdrawals. This payment mode is primarily a mix of a regular debit card which can be used at ATMs and a mobile wallet that can be used for contact-less payments. The ultimate aim is to enable all the possible features of a cash transaction in this single payment mode. While the concept itself is very disruptive in nature and has the potential to change the way India transacts – especially in hinterlands – it seems to be rather ambitious at the moment given that its success depends on 1) upgrading all transit collection modes in the country, 2) use in low-internet connectivity areas and 3) authentication factors to avoid misuse of lost cards, especially when the payment is made offline and without internet connectivity.

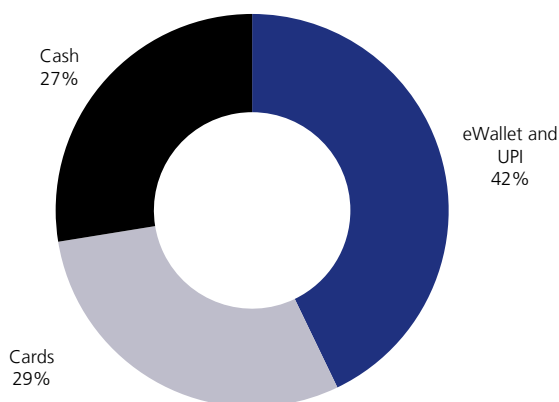
NFC card payments – convenience may increase use

Globally, fintech companies such as Google Pay, Samsung Pay and Apple Pay have popularised the concept of NFC for P2P payments. To further increase the penetration of digital payments in India, the government has lately been promoting the use of NFC-enabled payments, especially for debit and credit card payments at PoS locations ([media report](#)). The NFC technology is efficient and time-saving for both the merchant and card owner as it is based on the concept of commerce on-the-go. Some of its features include no need for Internet connectivity, contactless payments (just a tap on the PoS machine is enough without the need to dip/swipe cards) and no need to enter a PIN for small-value payments (<INR 2,000 and a maximum daily transaction limit of INR 10,000). Moreover, a few companies have now enabled virtual credit/debit cards that are embedded in mobile applications such that physical presence of the cards is not required while making contactless payments at PoS locations. Considering these factors, we expect the use of cards to become more convenient and therefore more appealing going forward.

Survey – online survey on digital payments

According to an online survey conducted by YouGov, active online users have a high preference for digital modes of payments – especially e-wallet, UPI and cards. Within the surveyed sample size, 44% of the respondents had used mobile e-wallets or UPI for small amount payments. This indicates the growing use of digital payments for small payments within the internet savvy population.

Exhibit 69. Survey indicates a preference for eWallet and UPI over cash and cards...



Source: Online study by YouGov Plc. and ACI Worldwide between 09-15 Oct'19, a festival week in India, Media Reports, JMFL

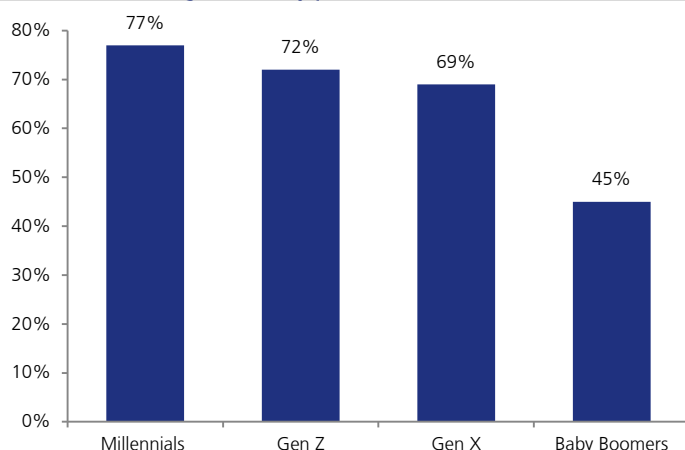
Exhibit 70. ...with >40% of the respondents having used eWallet/ UPI for payments of < INR 1,000 to merchants (online/offline)



Source: Online study by YouGov Plc. and ACI Worldwide between 09-15 Oct'19, a festival week in India, Media Reports, JMFL

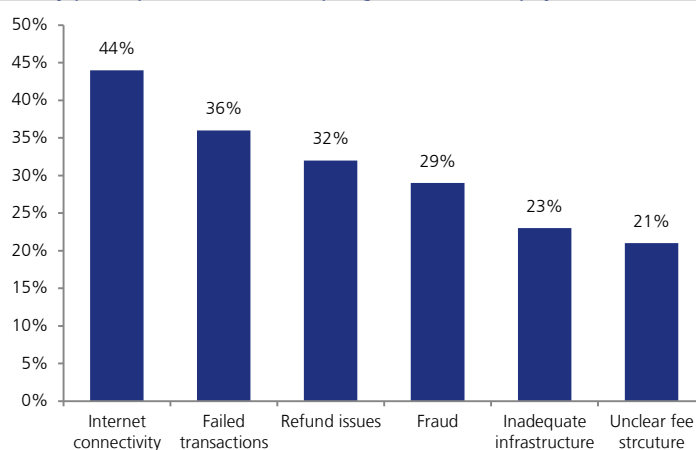
A significant proportion of millennial consumers use mobile wallets and/or UPI as per the survey while baby boomers are still catching up. However, key concerns related to digital payments continue to be poor Internet connectivity, failed transactions and refund issues, which also impact the second-time use of such pay modes.

Exhibit 71. Survey participants who used eWallet/ UPI for payments at least once during the survey period



Source: Online study by YouGov Plc. and ACI Worldwide between 09-15 Oct'19, a festival week in India, Media Reports, JMFL

Exhibit 72. Internet connectivity was the most important concern for survey participants while attempting eWallet / UPI payments

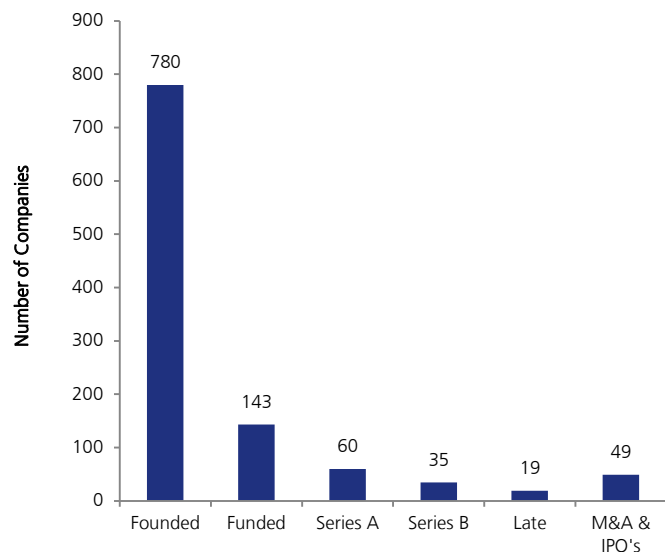


Source: Online study by YouGov Plc. and ACI Worldwide between 09-15 Oct'19, a festival week in India, Media Reports, JMFL

Funding of payments intermediaries in India

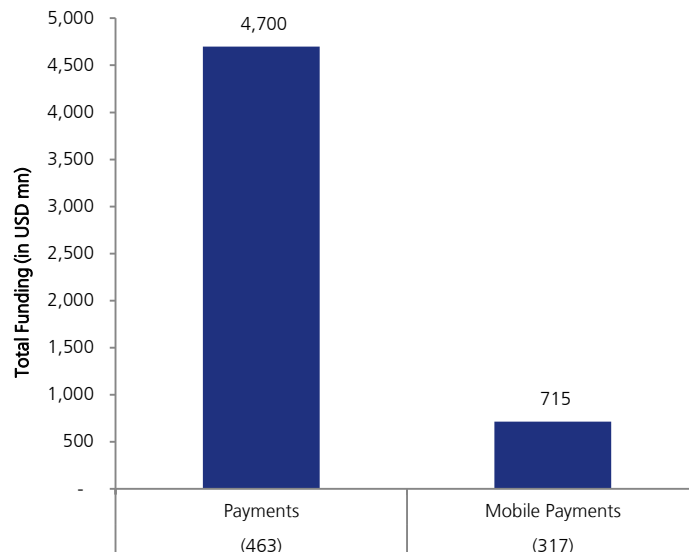
- **Intermediaries in digital payments are one of the most popular investment themes for large PE/VC investments firms.** Some of the prominent global/domestic investors include Sequoia Capital, Blume Ventures, Accel, Kae Capital, Prime Venture Partners, 500 Startups, 8i, Beenext, Catalyst and GMO Venture Partners. The space has been especially buoyant over the last five years, with total funds worth of USD 4.4bn raised in 200 funding rounds. Some of the leading funded companies include Paytm, Billdesk, Pine labs, SBI Payment Services, Cred, Mobikwik and Obopay.

Exhibit 73. Funding of digital payments companies by round



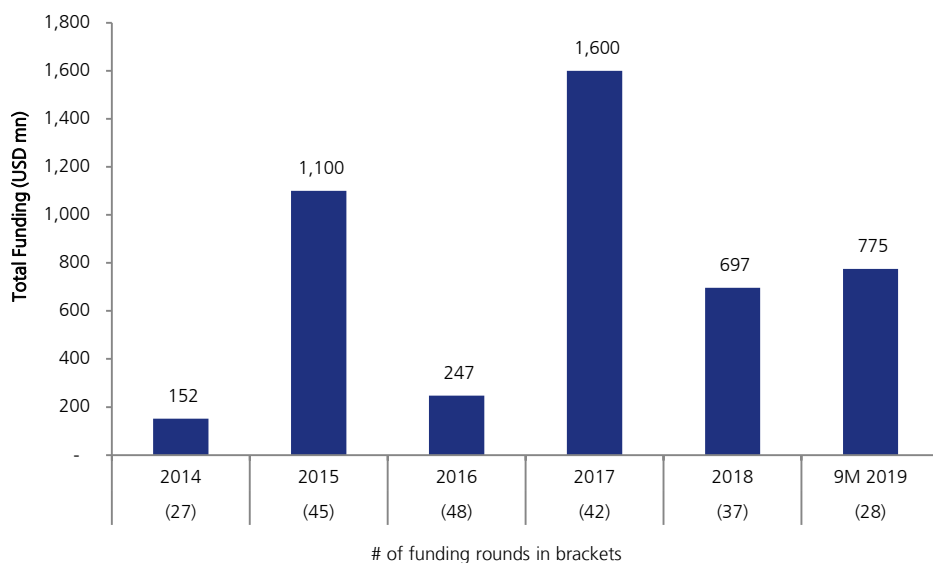
Source: Tracxn, JM Financial

Exhibit 74. Total funding raised by digital payments companies



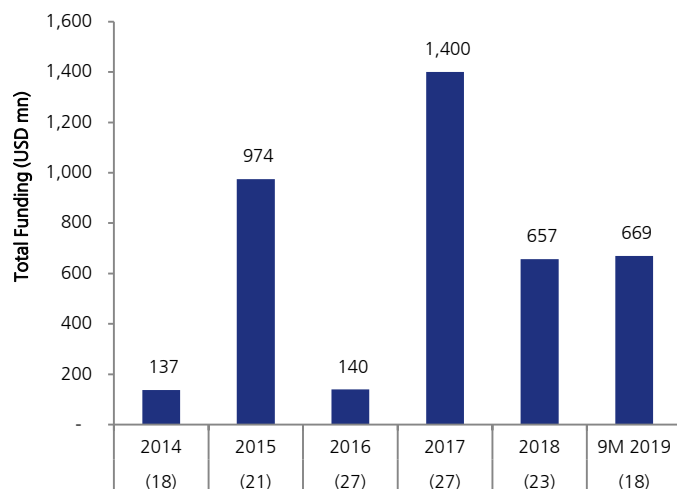
Source: Tracxn, JM Financial

Exhibit 75. Funding trends of digital payments companies



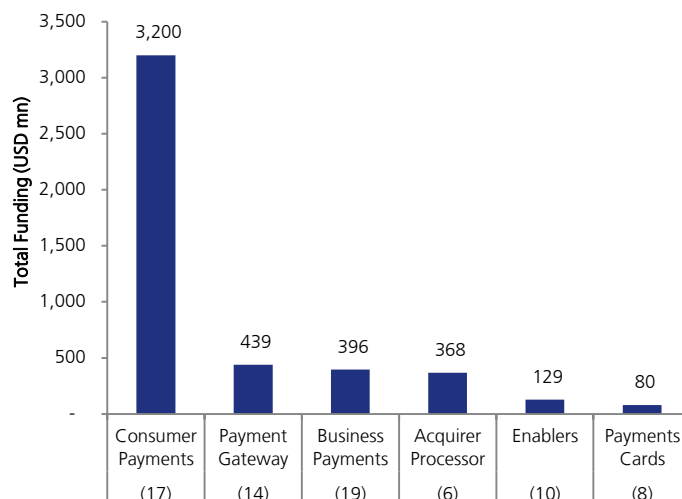
Source: Tracxn, JM Financial

As evident from Exhibit 77, the most funded companies in the sector are in consumer payments space followed by payment gateways and business payments. Within these, wallet and mPOS companies are the most funded businesses.

Exhibit 76. Funding trends of digital payments companies

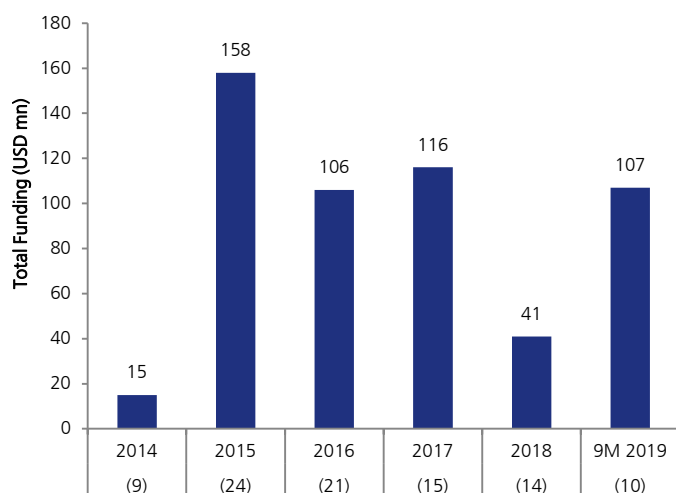
of funding rounds in brackets

Source: Tracxn, JM Financial

Exhibit 77. Business model based funding of payments companies

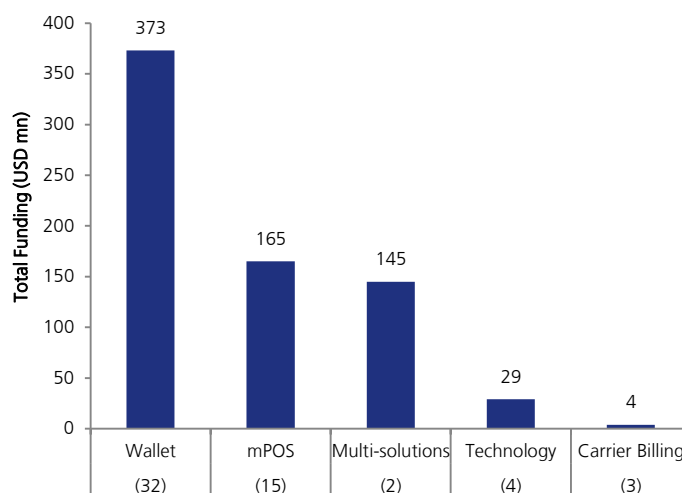
Number of funded companies in brackets

Source: Tracxn, JM Financial

Exhibit 78. Funding trends of mobile payments companies

of funding rounds in brackets

Source: Tracxn, JM Financial

Exhibit 79. Business model based funding of mobile payments

Number of funded companies in brackets

Source: Tracxn, JM Financial

Exhibit 80. Funding rounds for digital payments companies over the last year (Oct'18 - Sep'19)

| Company | Founded in | Based in | Funding (USD mn) | Round | Period | Investors |
|------------------------|------------|------------|------------------|----------|--------|--|
| SBI Payment Services | 2010 | Mumbai | 218 | PE | Jan-19 | Hitachi Payment Services |
| CRED | 2018 | Bengaluru | 120 | Series B | Aug-19 | Sequoia, Ribbit, Tiger Global, Dragoneer, Hillhouse, Greenoaks, General Catalyst Partners, RTP Global |
| Billdesk | 2000 | Mumbai | 85 | Series C | Feb-19 | Temasek, Visa |
| Razorpay | 2014 | Bengaluru | 75 | Series C | Jun-19 | Ribbit, Tiger Global, Y Combinator, Sequoia |
| Zeta | 2015 | Bengaluru | 60 | Series C | Jul-19 | Sodexo |
| BharatPe | 2017 | Bengaluru | 50 | Series B | Aug-19 | Ribbit, Steadview, Sequoia, Beenext, Insight Venture Partners, ABG Capital, Redwood |
| Niyo Solutions | 2015 | Bengaluru | 35 | Series B | Jul-19 | Horizon Ventures, Tencent, JSCapital, Prime Venture Partners |
| Mswipe | 2009 | Mumbai | 32 | Series E | Mar-19 | B Capital Group, DSG Consumer Partners, Epiq Capital Advisors, Falcon Edge Capital |
| CRED | 2018 | Bengaluru | 26 | Series A | Apr-19 | Sequoia, RTP, Ribbit, Gemini, Mvision, Future Shape, Credence, Venture Highway, Rainmatter Tech., ReDefine Capital, Valiant Capital, SciFi, Mission Holdings, Whiteboard Capital, Ganesh Ventures, Morningside Group |
| PayMate | 2006 | Mumbai | 25 | Series D | Jul-19 | Recruit Strategic Partners, Brand Capital, Visa, Mayfair 101 |
| BharatPe | 2017 | Bengaluru | 16 | Series A | Apr-19 | Sequoia, Beenext, Insight Venture Partners, Global Venture |
| Ftcash | 2015 | Mumbai | 7 | Series A | May-19 | FMO, Accion, IvyCap Ventures |
| Instamojo | 2012 | Bengaluru | 7 | Series B | Jan-19 | AnyPay, Kalaari Capital, Beenext, Gunosy, 500 Startups, Blume Ventures |
| Dhani Pay | 2010 | Mumbai | 7 | Series C | Apr-19 | Undisclosed |
| Cashfree | 2015 | Bengaluru | 6 | Series A | Apr-19 | Smile Gate Investment, Y Combinator |
| Mobikwik | 2009 | Gurgaon | 3 | Series E | Dec-18 | Sequoia, NET1, GMO Venture Partners |
| Sub-K | 2010 | Hyderabad | 3 | Series B | Dec-18 | Accion, Norwegian Microfinance Initiative, Michael & Susan Dell Foundation |
| SlicePay | 2015 | Bengaluru | 3 | Series A | Sep-19 | Undisclosed |
| StoreKing | 2012 | Bengaluru | 2 | Series B | Apr-19 | Undisclosed |
| Mobikwik | 2009 | Gurgaon | 1 | Series E | Jul-19 | New Delhi Television, Trifecta Capital |
| Digital India Payments | 2013 | Mumbai | 0.81 | Seed | Sep-19 | IC1101 |
| Mobikwik | 2009 | Gurgaon | 0.31 | Angel | Mar-19 | Undisclosed |
| SignCatch | 2014 | Delhi | 0.171 | Angel | Mar-19 | Undisclosed |
| Novopay | 2014 | Bengaluru | 0.164 | Series A | Oct-18 | Khosla Labs |
| Escrowfr | 2018 | Gurgaon | 0.105 | Seed | Oct-18 | Touchstone Venture |
| Paymatrix | 2015 | Hyderabad | 0.1 | Seed | Nov-18 | SucSEED Venture Partners |
| Atomx | 2012 | Pune | 0.093 | Seed | Apr-19 | Bookmywshow |
| Cointab | 2015 | Mumbai | 0.043 | Angel | Apr-19 | Undisclosed |
| CityCash | 2017 | Mumbai | Undisclosed | Series A | Dec-18 | FINO PayTech |
| GlobalPayEx | 2011 | Mumbai | Undisclosed | Series A | May-19 | JP Morgan |
| Go Payments | 2018 | Mumbai | Undisclosed | Seed | Dec-18 | Infibeam |
| MatchMove | 2009 | Singapore | NA | Series A | May-19 | NTT Docomo Ventures |
| Mindgate | 2008 | Mumbai | NA | Series A | Jun-19 | ACI Worldwide |
| Paymart | 2016 | Chandigarh | NA | Seed | Jul-19 | Chandigarh Angel Networks |
| Syntizen | 2014 | Hyderabad | NA | Seed | Sep-19 | Mastercard |

Source: Tracxn, JM Financial

Exhibit 81. Leading investors and their investments in the digital payments ecosystem

| Top investors | Total number of investments | Prominent investments in Payments | Prominent investments in Mobile Payments |
|------------------------|-----------------------------|-----------------------------------|--|
| Sequoia Capital | 15 | Pine Labs, CRED, Freecharge | Mobikwik, BharatPe, Citrus Pay |
| Blume Ventures | 6 | SlicePay, Instamojo, Gharpay | Chillr, QubeCell |
| Accel | 5 | QwikSilver, Simility, Wibmo | JusPay, MyPoolin |
| Kae Capital | 5 | FortunePay, Gharpay | Truepay, QubeCell |
| Prime Venture Partners | 4 | Niyo Solutions, Happay, MoneyTap | Ezetap |
| 500 Startups | 3 | Instamojo | Ftcash, Mintzone |
| 8i | 3 | SlicePay, MoneyTap | Ezetap |
| Beenext | 3 | Instamojo | BharatPe, Citrus Pay |
| Catalyst | 3 | Paynearby | ONYMY, FingPay |
| GMO Venture Partners | 3 | Razorpay | Mobikwik, MatchMove |

Source: Tracxn, JM Financial

Exhibit 82. M&A's involving digital payments companies over the last one year (Oct'18 - Sep'19)

| Target | Founded in | Based in | Total funding prior to the deal (USD mn) | Acquirer | Period | Deal Size (USD mn) |
|-------------------|------------|-----------|--|-----------------------|--------|--------------------|
| ThirdWatch | 2016 | Gurgaon | 0.226 | Razorpay | Aug'19 | Undisclosed |
| Signetpay | 2014 | Gurgaon | NA | koatoolsindia ltd.com | May'19 | 0.499 |
| Wibmo | 1999 | Bengaluru | 2.6 | PayU | May'19 | 70 |
| QwikSilver | 2008 | Bengaluru | 25.1 | Pine labs | Mar'19 | 110 |
| iReff | 2012 | Bengaluru | NA | Komparify | Jan'19 | Undisclosed |
| Atom Technologies | 2006 | Mumbai | NA | NTT Data | Nov'18 | 9.24 |

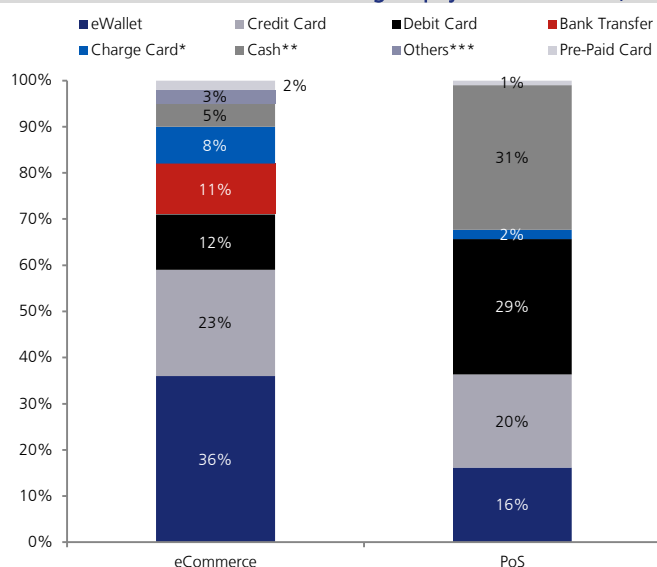
Source: Tracxn, JM Financial

How are digital payments faring globally?

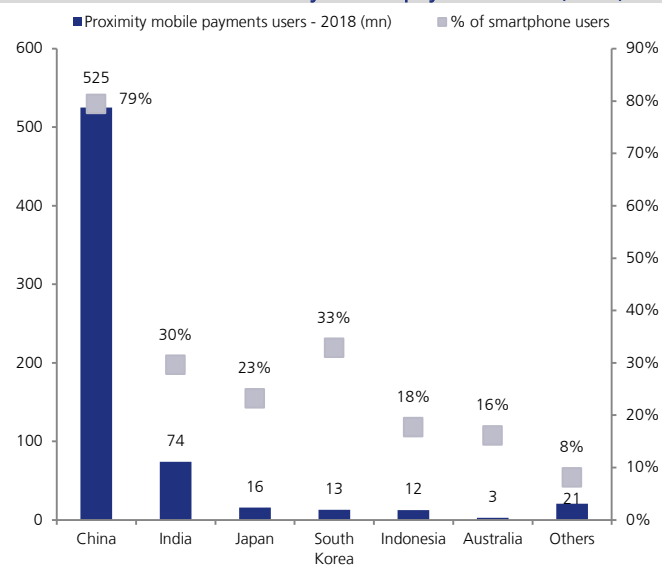
Exhibit 83. Global Comparison of certain Payments related indicators (2017)

| Country | Ratio of currency in circulation to narrow money (%) | Ratio of currency in circulation to GDP (%) | Number of cards (debit + credit) per inhabitant | Average number of cashless payments per inhabitant | Average value of cashless payments per inhabitant (USD) | Number of PoS terminals per inhabitant |
|----------------|--|---|---|--|---|--|
| Argentina | 63.3 | 6.8 | 2.4 | 46.7 | 35,278 | 0.01 |
| Australia | 22.8 | 4.5 | 2.8 | 497.2 | 5,39,748 | 0.04 |
| Brazil | 65.2 | 3.8 | 2.3 | 150.2 | 72,549 | 0.02 |
| Canada | 9.4 | 4.3 | 2.9 | 366.7 | 1,29,441 | 0.04 |
| China | 14.2 | 9.5 | 4.9 | 96.3 | 3,86,045 | 0.02 |
| France | NA | NA | 1 | 339.4 | 4,77,920 | 0.03 |
| Germany | NA | NA | 1.4 | 254.3 | 7,60,628 | 0.01 |
| India* | 57.6 | 11.2 | 0.7 | 18.3 | 3,910 | 0.003 |
| Indonesia | 50 | 5.1 | 0.7 | 34.3 | 6,993 | 0.005 |
| Italy | NA | NA | 1.3 | 99.7 | 1,68,733 | 0.04 |
| Japan | 14.9 | 20.4 | 3.5 | NA | 2,34,401 | NA |
| Korea | 12.7 | 6.2 | 5.1 | 499.9 | 4,26,066 | NA |
| Mexico | 36.1 | 6.7 | 1.4 | 36.7 | 1,32,776 | 0.01 |
| Russia | 48.9 | 10.4 | 1.9 | 175.7 | 86,527 | 0.02 |
| Saudi Arabia | 17.3 | 7.9 | 1 | 29 | 5,63,294 | 0.01 |
| South Africa | 9.2 | 3.4 | NA | 80.5 | 40,524 | 0.01 |
| Turkey | 29.7 | 4.3 | 2.1 | 65.9 | 51,419 | 0.03 |
| United Kingdom | NA | NA | 2.5 | 410.9 | 17,91,862 | 0.04 |
| United States | 44.3 | 8.2 | 4.2 | 473.4 | 6,01,977 | NA |

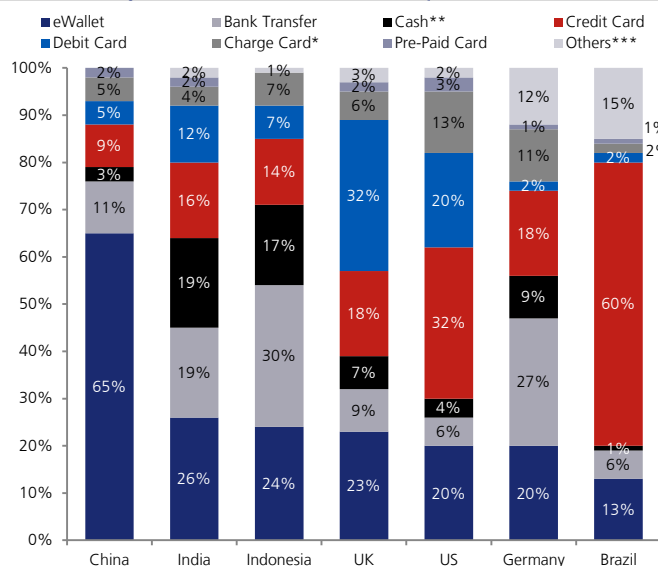
Source: RBI, Bank for International Settlements, *: For India data pertains to the FY2019. Data on cashless payments excludes RTGS and CCIL transactions.

Exhibit 84. Global: Ecommerce/PoS digital payment methods (2018)


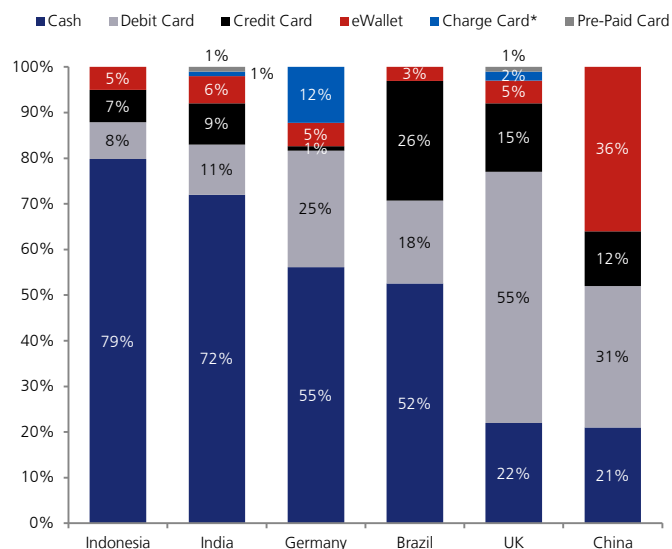
Source: Worldpay's Global Payments Report 2018. * includes Deferred Debit Card payments in case of e-commerce transactions; ** Cash on Delivery payments for e-commerce transactions; *** includes PostPay, PrePay and invoice payments for e-commerce transactions

Exhibit 85. Asia Pacific: Proximity mobile payment users (2018)


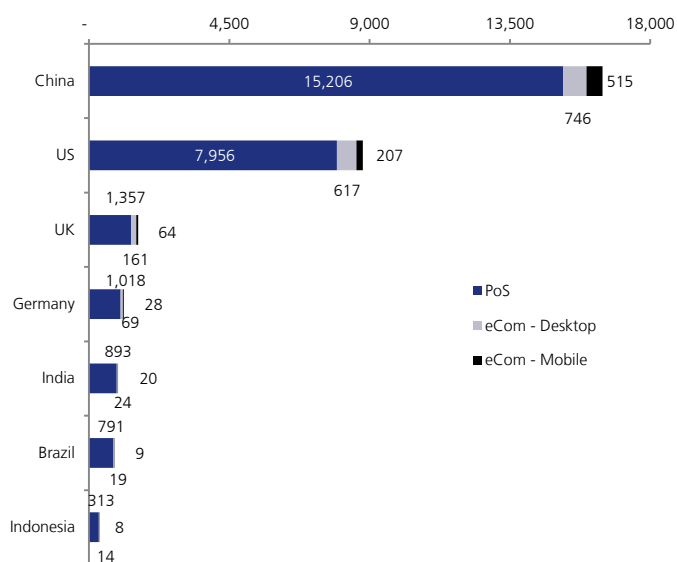
Source: eMarketer, Oct. 2018. Note: Users above 14 years of age only; a user is one who has done at least one proximity PoS transaction using a mobile device (excludes tablets) in the past six months; China excludes Hong Kong

Exhibit 86. Payments share when card not present (eCom): 2017

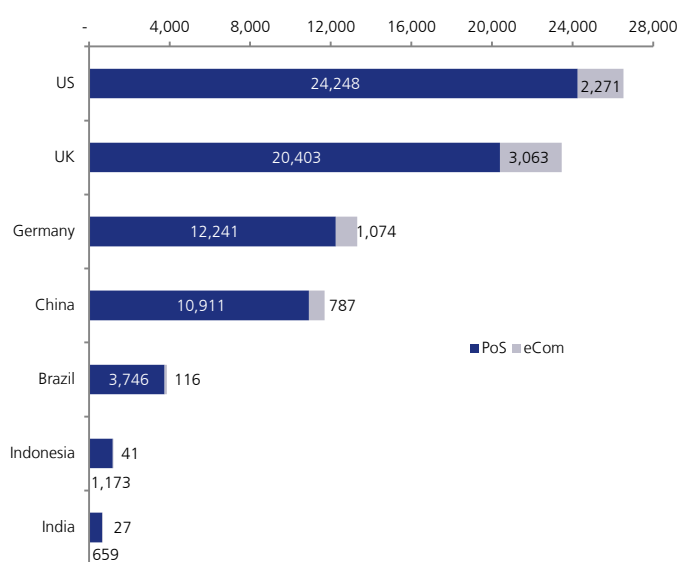
Source: Worldpay: Global Payments Report (Nov. 2018), JMFL. * includes Deferred Debit Card payments; ** Cash on Delivery payments; *** includes PostPay, PrePay and invoice payments.

Exhibit 87. Payments share when card is present (PoS): 2017

Source: Worldpay: Global Payments Report (Nov. 2018), JMFL. * includes Deferred Debit Card payments.

Exhibit 88. Total spends (in USD bn) at PoS/eCom: 2017

Source: Worldpay: Global Payments Report (Nov. 2018), JMFL

Exhibit 89. Per Capita (USD) spend at PoS/eCom: 2018

Source: Worldpay: Global Payments Report (Nov. 2018), JMFL

Takeaways from management meetings

Our meetings with some of the large digital payments companies gave us some interesting insights –

Meeting with IR of a Digital Payment Gateway Aggregator

- **Query:** What is the total value of digital payments processed through gateways in India?
- **Answer:** While it is difficult to accurately state the total value of digital payments processed through gateways in India, we estimate it to be around USD 70-80bn, with the top three players accounting for a combined share of around 60-65%.
- **Query:** Explain the commissions received by different players in a digital transaction.
- **Answer:** Payment gateway aggregators charge around 2% of the total transaction value as interchange fees (although it varies between different payment modes) from merchants on behalf of the acquirers, who then distribute it between different players in the payment process such as aggregators, issuers, scheme/network (VISA/Master Card/NPCI), etc. While the maximum share is earned by issuers who essentially underwrite the payment, payment aggregators themselves receive a commission of 20-30bps on the total transaction value.
- **Query:** How do you think the digital payments market in India will evolve going ahead?
- **Answer:** The payments market in India will continue to expand on the back of growing digital literacy, higher per capita transactions and an increase in number of merchants accepting payments online, supported by the government's digital initiatives. Off late, we have noticed a substantial increase in online P2M payments in Tier2/3 cities. Going ahead, growth opportunities will also emerge for companies like ours in the B2B payments space. We also believe that given their vast experience and low cost operations, there is huge scope for local payment aggregators to expand their operations outside India.

Meeting with ex-product manager for QR code and payment gateway of a leading bank

- **Query:** Explain the cards business for banks in brief.
- **Answer:** Cards, especially credit cards are used for high value transactions or when there are associated rewards/cashbacks/benefits or in some cases, because they are fashionable to use. It is a very profitable business for issuing banks because they receive a fixed fee (depends on card type). Schemes too have predefined fee structure. The only variable portion is the share of acquiring banks, who have to offer competitive rates to merchants and therefore earn the lowest. However, if the issuing and acquiring bank is the same, it becomes a very profitable business and therefore some of the largest banks in India have been aggressively issuing cards and increasing POS deployments. Banks/merchants also tie-up with payment aggregators who offer value added services.
- **Query:** Has the rise of UPI/Wallets affected relevance of cards/other pay-modes?
- **Answer:** UPI/Wallets have slightly reduced the use cases for debit cards in case of small ticket payments and substantially in case of net banking for P2P transfers. But in general, these two have widened the use cases for digital payments instead of cash. They are now being used for instant payments between individuals or even by unorganized businesses. However, the profitability for banks is much lower in UPI/wallets.
- **Query:** Why are banks investing heavily in UPI/wallets inspite of low profitability?
- **Answer:** In the case of wallets, banks were looking to increase their customer engagement, provide pay on the go option, improve loyalty, analyze customer spending behavior and attract other new customers. On the other hand, UPI is being promoted by the government to increase digital transactions and banks are trying to achieve their set targets. Third-party apps in a way are helping them meet targets, as they incentivize UPI usage through cashbacks/rewards. Both these businesses are low margin, but the scope of growth in transaction volumes is very high. While other fintech companies are building products/services such as lending, insurance, digital ledger, etc. by applying analytics on transactions data, banks are presently not working on any such activities due to archaic systems and business process.

Company Profiles

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Paytm (One97 Communications Ltd.)

Company Description

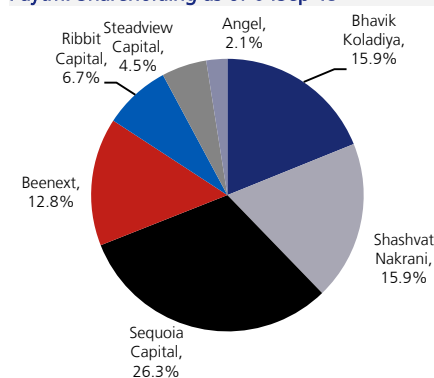
Founded in 2000 by Vijay Shekhar Sharma, Noida-based Paytm offers a wide range of financial products and services such as digital payments (peer to peer/ peer to merchants) through UPI/mobile wallet, mobile/utility bill payments, mutual fund and insurance products and digital banking services, among others.

Paytm also offers co-branded credit cards and credit services through its partnerships with other financial services companies, and enables purchase of online tickets (air, train, bus, hotel, movies, etc.).

All these products and services are primarily offered through the company's 'Paytm' and 'Paytm Money' platforms. As of Jul'19, the company had more 450mn registered users, of which ~130mn were monthly active users. Further, more than 12mn offline merchants used the company's platform to accept payments.

In addition, the company also operates an e-commerce platform 'Paytm Mall' where customers can purchase electronics, fashion items, cars & bikes, stationery and daily use products, among others.

Paytm: Shareholding as of 04Sep'19



Source: Tracxn, JMFL

Exhibit 90. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|-------------------------------------|
| Feb'06 | Angel | 3.8 | Peeyush Kumar Aggarwal (individual) |
| Mar'07 | Series A | 8.3 | SAIF Partners, Silicon Valley Bank |
| Dec'08 | Series B | 9.9 | Intel Capital, Silicon Valley Bank |
| Oct'11 | Series C | 10.0 | Sapphire Ventures |
| Feb'15 | Series D | 213 | Alibaba Group, SAIF Partners |
| Jun'15 | Debt | 2.34 | HDFC Bank |
| Sep'15 | Series E | 472 | Alibaba Group |
| Mar'16 | Debt | 44.6 | ICICI Bank |
| Aug'16 | Series E | 60 | MediaTek |
| May'17 | Series F | 1,400 | SoftBank Group |
| May'18 | Series F | 358 | Berkshire Hathaway |

Source: Tracxn, Media Reports

Paytm: Key Management Personnel

| Name | Designation |
|----------------------|---------------|
| Vijay Shekhar Sharma | Founder & CEO |
| Madhur Deora | President |

Source: Company

Latest News

Oct'19: Announced partnership with Bharat Sanchar Nigam Limited (BSNL) to enable its app users to connect to the latter's public-wifi service.

Oct'19: Paytm founder, Vijay Shekhar Sharma mentioned that the company was unlikely to consider an IPO, at least over the next 2-3 years.

Oct'19: Ankit Gera, Head of Growth and AVP at Paytm exited the company.

Sep'19: Announced a corporate agency tie-up with Star Health Insurance, to offer the latter's products on Paytm's platform.

Sep'19: Aegon Life announced offering of its insurance products on Paytm's platform.

Exhibit 91. Consolidated Financial Summary

| Y/E March | FY17 | FY18 | FY19 |
|-----------------------------|---------|---------|---------|
| Net Sales (INR mn) | 6,146 | 30,529 | 32,320 |
| Sales Growth (%) | 30% | 397% | 6% |
| Operating Profit (INR mn) | -13,296 | -17,139 | -43,817 |
| Operating Profit Margin (%) | -216.3% | -56.1% | -135.6% |
| Adj. PAT (INR mn) | -12,110 | -15,839 | -42,119 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -5,085 | -1,279 | 3,599 |

Source: Company, VCC Edge, JMFL

PhonePe (PhonePe Pvt. Ltd.)

Company Description

Bengaluru-based PhonePe is a wholly-owned digital payments subsidiary of Flipkart Pvt. Ltd. that facilitates P2P and P2M payments through its own prepaid payment system (semi-closed mobile wallet) as well as UPI payments mechanism (through partnership with banks).

The company's mobile application is a one-stop solution for utility bills, mobile & DTH recharge, instant & direct money transfer (bank-to-bank or wallet-to-wallet), online & offline merchant payments.

PhonePe also deploys QR Codes at offline merchant locations (largely unorganized) so that walk-in customers can scan them and make instant payments.

In Jul'19, the company reported an annual total payment value run-rate of USD 95bn through 335 million transactions, with over 60 million monthly active users.

Exhibit 92. Investors, funding and M&A

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|-------------|-----------------|--|
| Feb'13 | Angel | 0.184 | Kiran Shetty, Adarsh Kumar Bhatti, Namrata Gupta, Vijay Kumar Bhatti (Individuals) |
| Jun'14 | Angel | 0.05 | Saurabh Singla, Suresh Kumar, Namrata Gupta (individuals) |
| Mar'15 | Angel | 0.435 | Saurabh Singla, Suresh Kumar (individuals) |
| Apr'16 | Acquisition | 10-20 | Flipkart |

Source: Tracxn, Media Reports

Latest News

Oct'19: Media reports indicated that PhonePe's ultimate parent Walmart Inc. was considering demerging PhonePe from Flipkart so as to ensure direct ownership. The demerger is likely to coincide with PhonePe's primary and secondary fund raising plan.

Sep'19: PhonePe sought an injunction order against the company in Delhi High Court claiming unfair usage of the suffix 'Pe', over which it claims to have trademark rights.

Sep'19: Launched 'PhonePe Switch' a feature that allows app users one-click login to more than 50 other apps, without having to download those apps separately.

Sep'19: Launched a new service that allows UPI Id's created on PhonePe app to apply for initial public offerings (IPO's).

Sep'19: Announced that more than 1 million offline stores in the Delhi-NCR region are now accepting payments through the company's QR codes.

Aug'19: Partnered Tata Sky to offer auto-debit payments option to its customers for DTH recharges after a one-time mandate.

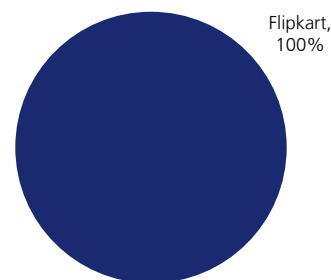
Aug'19: Started door-step verification for its wallet users to complete their KYC process which is mandatory for all mobile wallet consumers.

Exhibit 93. Standalone Financial Summary

| Y/E March | FY17 | FY18 | FY19 |
|-----------------------------|---------|---------|---------|
| Net Sales (INR mn) | 30 | 428 | 1,842 |
| Sales Growth (%) | 1,484% | 1,315% | 331% |
| Operating Profit (INR mn) | -1,429 | -7,888 | NA |
| Operating Profit Margin (%) | -4,725% | -1,843% | NA |
| PAT (INR mn) | -1,291 | -7,910 | -19,047 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -246 | -235 | NA |

Source: VCC Edge, Media Report (FY19), JMFL

PhonePe: Shareholding as of 05Jul'19



Source: Tracxn, JMFL

PhonePe: Key Management Personnel

| Name | Designation |
|-----------------|---------------------------|
| Sameer Nigam | CEO |
| Rahul Chari | CTO |
| Burzin Engineer | Chief Reliability Officer |

Source: Company

Amazon Pay (Amazon Pay India Pvt. Ltd.)

Company Description

Amazon Pay is the digital payments arm of US-based Amazon that allows payments through its mobile wallet (semi-closed prepaid payments) or an UPI interface.

The company earlier used to operate under the 'Tapzo' brand before being acquired (in an all cash deal valued at USD 40mn), rebranded and revamped by the current parent in Aug'18.

Amazon Pay facilitates P2P and P2M transactions such as payments for bills and recharges, ticket bookings, money transfers, and products & services purchases from businesses (both online & offline).

The company also issues co-branded credit cards in association with ICICI bank.

Exhibit 94. Investors, funding and M&A

| Announced | Target | M&A | Amount (USD mn) | Key Investors |
|-----------|--------|-------------|-----------------|---------------|
| Aug'18 | Tapzo | Acquisition | 40 | Amazon |

Source: Media Reports

Latest News

Oct'19: Announced the launch of Amazon Alexa smart speaker that allows utility/mobile bill payments from Amazon Pay using voice commands.

Oct'19: Received INR 9bn capital infusion from parent entity.

Sep'19: Partnered video on demand platform Hooq to enable one-click subscription for the latter's subscribers.

Jun'19: Received INR 4.5bn capital infusion from parent entity.

Apr'19: Launched UPI-based P2P payments for Android users.

Mar'19: Launched the scan and pay facility at merchant locations to enable offline payments.

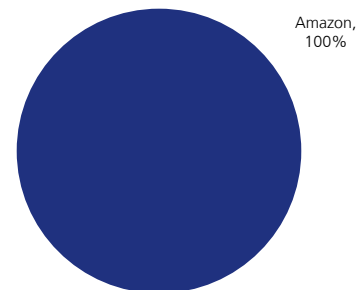
Jan'19: Received INR 3bn capital infusion from parent entity.

Exhibit 95. Standalone Financial Summary

| Y/E March | FY17 | FY18 | FY19 |
|-----------------------------|---------|--------|---------|
| Net Sales (INR mn) | 41 | 3,891 | 8,065 |
| Sales Growth (%) | 1,357% | 9,437% | 107.3% |
| Operating Profit (INR mn) | -1,812 | -3,386 | NA |
| Operating Profit Margin (%) | -4,442% | -87.0% | NA |
| PAT (INR mn) | -1,779 | -3,342 | -11,610 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -646 | NA | NA |

Source: VCC Edge, Media Report, JMFL

Amazon Pay: Latest Shareholding



Source: Media Reports, JMFL

Amazon Pay: Key Management Personnel

| Name | Designation |
|-------------------|-------------|
| Mahendra Nerurkar | Director |

Source: LinkedIn, Media Reports

Freecharge

Company Description

Founded in 2010 by Kunal Shah and Sandeep Tandon as a digital recharge platform for mobiles, Freecharge today is a wholly-owned platform of Axis Bank that enables digital recharges/bill payments for mobiles, telephones, direct to home connections, metro train and utilities (electricity/gas/water), for a range of service providers in India in exchange for commissions.

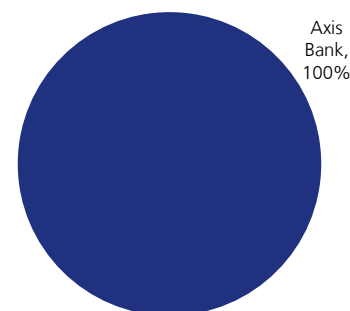
The platform also offers a digital wallet to its customers for direct online as well as offline payments to various organized/unorganized merchants, and is engaged in the distribution of insurance and mutual fund products.

These services are offered through two fellow subsidiaries, Freecharge Payment Technologies Private Ltd. and Accelyst Solutions Private Limited. However, Axis Bank is presently working towards the merger of these two subsidiaries.

As of end-FY19, the company had 72mn registered users, with 9 million monthly active users and 106 million transactions together accounting for annual gross merchandize value of ~INR28bn.

In Apr' 2015, Freecharge was acquired by Snapdeal in a cash and stock deal worth USD 400mn, who later sold the platform to Axis Bank in Jul' 2017, at a valuation of USD 60mn.

Freecharge: Shareholding as of 31Mar'19



Source: Tracxn

Exhibit 96. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|------------------|-----------------|---|
| Jun' 10 | Seed | Undisclosed | Tandon group |
| Jun' 11 | Seed | Undisclosed | Sequoia Capital |
| Jan' 12 | Series A | 3.9 | Sequoia Capital |
| Sep' 14 | Series B | 33 | ruNet, Sofina, Sequoia Capital |
| Feb' 15 | Series C | 80 | Tybourne Capital Management, Sequoia Capital, ruNet, Sofina |
| Apr' 15 | Acquisition | 400 | Snapdeal |
| Dec' 16 | Capital infusion | 57.2 | Snapdeal |
| Mar' 17 | Capital infusion | 5 | Snapdeal |
| May' 17 | Capital infusion | 3 | Snapdeal |
| Jul' 17 | Acquisition | 60 | Axis Bank |

Source: Tracxn, Media Reports

Freecharge: Key Management Personnel

| Name | Designation |
|-----------------|-------------|
| Siddharth Mehta | CEO |
| Rahul Vermani | CFO |

Source: Company

Latest News

Aug'19: The Company starts offering its own digital credit cards through Axis Bank.

May'19: Partnered travel booking firm tripXOXO to offer experimental activities to travellers.

Feb'19: Entered the credit business, started wallet-based lending to Axis Bank customers.

Aug'18: Partnered bus ticketing platform AbhiBus to offer in-app booking services.

Apr'18: The board of Axis Bank approved the merger of wholly-owned subsidiaries, Accelyst Solutions and Freecharge Payment Technologies.

Exhibit 97. Financial Summary: Accelyst Solutions Pvt. Ltd.

| Y/E March | FY17 | FY18 | FY19 |
|-----------------------------|--------|--------|---------|
| Net Sales (INR mn) | 393 | 167 | 129 |
| Sales Growth (%) | 14.0% | -57.5% | -22.9% |
| Operating Profit (INR mn) | -2,472 | -623 | -823 |
| Operating Profit Margin (%) | -629% | -373% | -638% |
| PAT (INR mn) | -2,965 | -259 | -793 |
| PAT Growth (%) | -0.2% | 91.3% | -206.3% |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | NA | NA | NA |

Source: Company, VCC Edge, JMFL

Google Pay (Google India Digital Services Private Limited)

Company Description

Google Pay (the erstwhile 'Tez' brand) which is operated by Google Payments India facilitates P2P and P2M transactions such as payments for bills and recharges, money transfers, gold purchases (from MMTC) and products & services purchases from businesses (both online as well as offline).

Unlike other major digital payment companies who also operate a mobile wallet, Google Pay claims to be just a technology service provider for UPI payments with processing and settlement being handled by banks.

While Google Pay currently has a significantly higher share of P2P payments, it also deploys QR Codes at offline merchant locations (largely unorganized) so that walk-in customers can scan them and make instant payments.

In Sep'19, the company reported an annual total payment value run-rate of USD 110bn, with over 67 million monthly active users.

Latest News

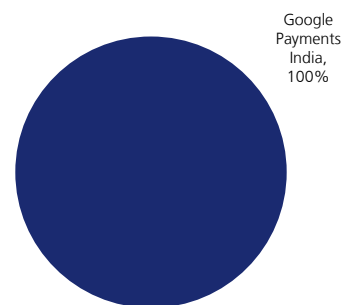
Oct'19: Announced the launch of transaction authentication using fingerprints or facial recognition instead of PIN/pattern. However, it is unlikely that the new authentication will immediately be implemented in India as currently PIN is mandatory for UPI payments.

Exhibit 98. Standalone Financial Summary

| Y/E March | FY17 | FY18 | FY19 |
|-----------------------------|------|-------|--------|
| Net Sales (INR mn) | NA | 4,383 | 11,190 |
| Sales Growth (%) | NA | NA | 155.3% |
| Operating Profit (INR mn) | NA | NA | NA |
| Operating Profit Margin (%) | NA | NA | NA |
| PAT (INR mn) | NA | 55 | 51 |
| PAT Growth (%) | NA | NA | -6.8% |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | NA | NA | NA |

Source: Media Report, JMFL

Google Pay: Latest Shareholding



Source: Media Reports, JMFL

Google Pay: Key Management Personnel

| Name | Designation |
|-------------------|------------------|
| Sajith Sivanandan | Busiess Director |
| Pulkit Trivedi | Director |

Source: LinkedIn, Media Report

BharatPe (Resilient Innovations Private Limited)

Company Description

BharatPe is a Delhi-based digital payments company founded in 2017 by Ashneer Grover and Shashvat Nakrani.

The company's QR-code based digital payments solutions help offline merchants accept UPI payments from more than 100 apps. These solutions are offered to the offline merchants free of cost i.e. merchants are not charged either setup costs or transaction fees.

Within just 2 years of its launch the company has on-boarded more than 1.45mn offline merchants and crossed total payments value (TPV) of USD 1bn (media report).

BharatPe also offers collateral-free small loans (INR 10,000 to INR 500,000) for periods ranging between three to 12 months to SME's and merchants. The company depends on the transaction data of the merchants collected by its QR code while deciding the credit limit of the loans.

Presently, the average ticket size of these loans is around INR 40,000 and the company expects to disburse total loans worth INR 700mn in 2019.

Exhibit 99. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---|
| Aug'18 | Seed | 2.96 | Sequoia Capital, Beenext, Venture Catalysts, Samyakth Capital, Angel List and several individuals |
| Apr'19 | Series A | 16.0 | Insight Venture Partners, Beenext, Sequoia Capital, Global Venture |
| Aug'19 | Series B | 50.0 | Ribbit Capital, Steadview Capital, Sequoia Capital, Beenext, Insight Venture Partners, ABG Capital, Redwood Trust |

Source: Tracxn, VCC Edge, Media Reports.

Latest News

Sep'19: PhonePe sought an injunction order against the company in Delhi High Court claiming unfair usage of the suffix 'Pe', over which it claims to have trademark rights.

Sep'19: Appointed Subhasis Beura (ex-Reckitt), Nishit Sharma (ex-ICICI) and Nishant Saluja (ex-Paytm) as the new Chief Business Officer - Brands & Commerce, Chief Business Officer - Growth, VP - Lending & Consumer Operations, respectively.

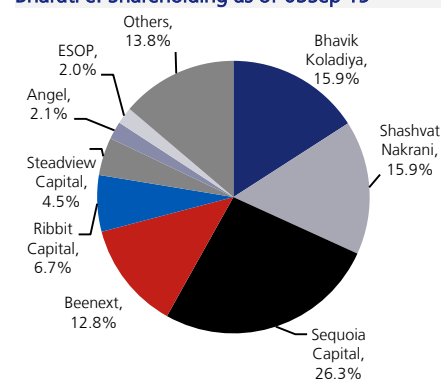
Aug'19: Raised around USD 50mn from Ribbit Capital, Steadview Capital, Sequoia Capital, Beenext Capital and Insight Partners at a valuation of ~USD 225mn.

Aug'19: Achieved 18 million monthly transactions within just ten months of entering the payments space.

Jul'19: Announced the appointment for Jitendra Gupta (former PayU India - MD) on the company's board.

Jul'19: Announced plans to disburse loans worth INR 700mn in 2019 to small and mid-size shopkeepers.

BharatPe: Shareholding as of 05Sep'19



Source: Tracxn, JMFL

BharatPe: Key Management Personnel

| Name | Designation |
|------------------|--------------------|
| Ashneer Grover | CEO and Co-Founder |
| Shashvat Nakrani | Co-Founder |

Source: Company

Billdesk (Indialdeas.com Ltd.)

Company Description

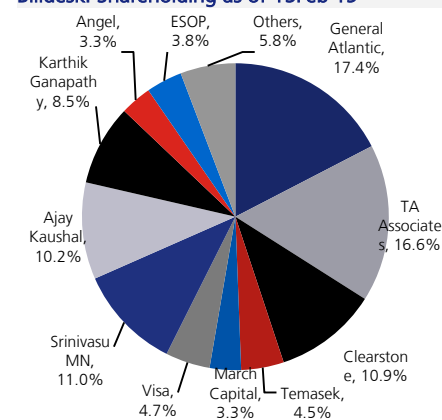
Mumbai-based Billdesk was founded in 2000 by Ajay Kaushal, MN Srinivasu and Karthik Ganapathy (all three are ex-Arthur Anderson employees). The company offers online payments solutions to banks, e-commerce companies, telecom operators and state utilities, among others.

Billdesk helps companies present recurring telephone bills, electricity bills, cell-phone bills, credit card bills, ISP charges and others bills to their customers. The customer payments (in the electronic form) are then processed through its payment gateway that is connected to banks.

From the customer's perspective, Billdesk is a one stop solution to track, manage and pay multiple billers anytime & anywhere through a dedicated online account, free of cost.

The company is the largest online payments company in the country with annual processed payments volumes exceeding USD 60bn ([media report](#)).

Billdesk: Shareholding as of 15Feb'19



Source: Tracxn, JMFL

Exhibit 100. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|-------------------|-----------------|--|
| Sep' 04 | Venture Debt | 1.1 | Bank of Baroda, SIDBI Venture Capital |
| Mar' 05 | Conventional Debt | 0.9 | Bank of Baroda |
| Jun' 06 | Series A | 7.5 | Clearstone Venture Partners, State Bank of India, SIDBI Venture Capital and Saurabh Mishra (individual investor) |
| Oct' 15 | Series C | 153 | General Atlantic, Temasek |
| Feb' 19 | Series C | 84.8 | Visa, Temasek |

Source: Tracxn, Media Reports

Billdesk: Key Management Personnel

| Name | Designation |
|-------------------|-----------------------|
| Ajay Kaushal | Co-founder & Director |
| MN Srinivasu | Co-founder & Director |
| Karthik Ganapathy | Co-founder & VP |

Source: Company

Latest News

Sep'19: Partnered Visa to launch SI-Hub, a recurring payments solution that banks and merchants can offer to their customers who prefer to pay their bills/subscriptions using cards. This service needs just a one-time enrolment of cards by their holders.

Feb'19: Received funding of USD 84.85mn from Visa Inc. and Temasek Holdings Pte. Ltd.

Dec'18: Partnered ZestMoney to enable card less EMI payment option for its merchants.

Exhibit 101. Consolidated Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 5,324 | 8,997 | 11,028 |
| Sales Growth (%) | NA | 69.0% | 22.6% |
| Operating Profit (INR mn) | 976 | 1,392 | 1,714 |
| Operating Profit Margin (%) | 18.3% | 15.5% | 15.5% |
| PAT (INR mn) | 625 | 1,379 | 1,489 |
| PAT Growth (%) | NA | 120.8% | 8.0% |
| ROE (%) | NA | 18.0% | 12.8% |
| Net Debt (INR mn) | -6,661 | -2,434 | -2,304 |

Source: VCCEdge, JMFL

PayU (PayU Payments Private Limited)

Company Description

PayU, a Naspers Group company, provides mobile and online payment gateway services to more than 300,000 businesses in India. The company not only processes payments through all digital modes such as cards, UPI, net banking and mobile wallets but also offers post transaction management services.

Value added services of the company include helping business create a free website on its platform and also helping them accept payments through links.

Additionally, PayU has an NBFC license through which it offers credit services to MSME's and operates a consumer credit business under the 'LazyPay' brand name.

Globally PayU offers 250+ payment options, process ~USD25bn worth of annual payments, and operates in 18 countries across Asia, Central and Eastern Europe, Latin America and the Middle East and Africa

Exhibit 102. Funding and M&A's – India

| Announced | Acquired | Amount (USD mn) | Stake |
|-----------|------------|-----------------|-------|
| Sep'16 | Citrus Pay | 2.02 | 100% |
| Feb'16 | ZestMoney | 5.79 | 20% |
| Jul'18 | PaySense | 11.5 | NA |
| Oct'19 | Fisdorn | 5 | NA |

Source: Tracxn, Media Reports

Latest News

Oct'19: Partnered e-commerce company Shopmatic to enable payment acceptance for its merchants through multi-channels, devices and modes.

Oct'19: Acquired minority stake in Bengaluru-based wealth-tech company Fisdorn through an investment of USD 11mn.

Sep'19: Launched a multi-function app for merchants that would help them track their business performance and request for payments on-the-go.

Aug'19: Invested INR 500mn in its NBFC subsidiary PayU Finance that offers 15 days credit to customers following a purchase through 'LazyPay'.

Jul'19: Announced integration of its online payment services with Zoho CRM to help the company's merchants digitize their entire sales cycle.

Jul'19: PayU founder and MD Shailaz Nag resigned. Earlier, Jintra Gupta (head-LazyPay) and Amrith Rau (CEO) had resigned from the company.

Jul'19: Acquired majority stake in Red Dot Payment, a Singapore-based company, marking its entry in the Southeast Asian market.

Jun'19: Acquired Turkey-based digital payments company lyzico for USD 165mn.

Exhibit 103. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 1,845 | 3,068 | 5,884 |
| Sales Growth (%) | 50.2% | 66.3% | 91.7% |
| Operating Profit (INR mn) | -1,728 | -1,541 | -1,504 |
| Operating Profit Margin (%) | -93.7% | -50.2% | -25.6% |
| Adj. PAT (INR mn) | -1,710 | -1,571 | -1,498 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -1,066 | -6,764 | -547 |

Source: VCC Edge, JMFL

PayU: Key Management Personnel

| Name | Designation |
|-------------------|-------------|
| Laurent le Moal | CEO, Global |
| Aakash Moondhra | CFO |
| Anirban Mukherjee | CEO, India |

Source: LinkedIn

CCAvenue (Infibeam Avenues Limited) – (Not Rated)

Company Description

Founded in 2001 by Vishwas Patel, CCAvenue is a Mumbai-based payment gateway aggregator with operations in UAE and Saudi Arabia as well. The company was acquired by Infibeam Avenues Ltd. in 2017 at a valuation of USD 289mn.

CCAvenue's payment gateway processes payments made to online businesses through all digital modes such as cards, UPI, net banking and prepaid instruments.

Other value added services offered to businesses include EMI payments, multi-currency processing, payment links, invoice payments, subscriptions and multi-lingual checkouts, among others.

The payment gateway supports payments from 27 currencies and 18 international and domestic languages and is used by more than 70% of India's web merchants.

Overall, the payment gateway handles more than 125 million annual transactions and processes payments worth ~INR 1.6bn, daily.

Exhibit 104. CCAvenue: Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---------------|
| May' 16 | Series A | 8.99 | Infibeam |
| May' 17 | Merger | 289 | Infibeam |

Source: Tracxn, Media Reports. Note: CCAvenue merged with Infibeam at a valuation of USD 289mn ([media report](#)).

Latest News

Sep'19: Collaborated with Saudi Arabia based Riyadh Bank to offer digital payments solutions to local ecommerce businesses.

Jul'19: Announced the launch of a payments solution 'Intent' to simplify UPI payments flow on its gateway.

Nov'17: Launched 'BillAvenue' a digital bill payments solution that works on the BBPS infrastructure.

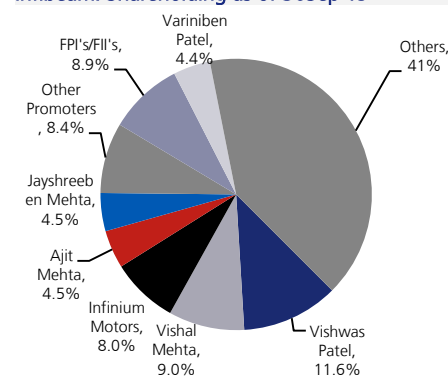
Jul'17: CCAvenue was merged with the parent company 'Infibeam'.

Exhibit 105. Consolidated Financial Summary - Infibeam Avenues Ltd.

| Y/E March | FY17 | FY18 | FY19 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 4,413 | 8,393 | 11,510 |
| Sales Growth (%) | 30.9% | 90.2% | 37.1% |
| Operating Profit (INR mn) | 666 | 1,567 | 1,681 |
| Operating Profit Margin (%) | 15.1% | 18.7% | 14.6% |
| PAT excl. MI (INR mn) | 441 | 882 | 1,270 |
| PAT Growth (%) | 370.7% | 100.1% | 44.0% |
| ROE (%) | 6.1% | 5.2% | 4.7% |
| Net Debt (INR mn) | -1,705 | -1,159 | -925 |

Source: Company, JMFL

Infibeam: Shareholding as of 30Sep'19



Source: Company, JMFL

CCAvenue: Key Management Personnel

| Name | Designation |
|---------------|-------------------------|
| Vishwas Patel | Director |
| Vivek Nayak | COO |
| Ankit Patel | CTO |
| Anupama Salvi | Director – New Business |
| Pankaj Dedhia | CBO |

Source: Company

Razorpay (Razorpay Software Pvt. Ltd.)

Company Description

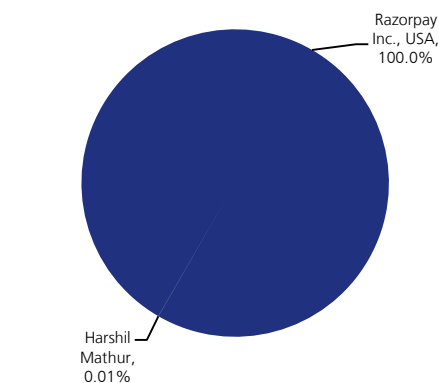
Razorpay is a Bengaluru-based payments solutions provider founded in 2014 by Harshil Mathur and Shashank Kumar. Through its payment gateway, the company helps online merchants process payments from credit & debit cards, net banking, UPI and mobile wallets.

The company also offers value added payment services to merchants such as subscription plans for recurring payments, accepting split payments (immediate vendor payouts), payments through links (on email, SMS, messenger, chatbot, etc.), GST compliant invoice generations and creating business specific payment pages.

Other businesses of the company include neo-banking and lending platforms, 'Razorpay X' and 'Razorpay Capital'.

Razorpay's solutions are currently being used by more than 200,000 businesses. Moreover, the company has extended INR 2bn worth of collateralised loans (avg. ticket size of INR 1.5-2mn) to merchants by the end of FY20, through its partnership with NBFC companies.

Razorpay: Shareholding as of 31Mar'18



Source: Tracxn, JMFL

Exhibit 106. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---|
| NA | Seed | 2.5 | Matrix Partners India and individual investors such as Jeff Huber, Justin Kan, Ram Shriram |
| Mar'15 | Seed | 0.12 | Y Combinator |
| Oct'16 | Series A | 9 | Tiger Global Management, Matrix Partners India, Y Combinator and several individual investors |
| Jun'16 | Series A | Undisclosed | MasterCard |
| Jan'18 | Series B | 20 | Tiger Global Management, Y Combinator, Matrix Partners India |
| Jun'19 | Series C | 75 | Ribbit Capital, Sequoia Capital, Tiger Global Management, Y Combinator |

Source: Tracxn, Media Reports

Razorpay: Key Management Personnel

| Name | Designation |
|----------------|------------------|
| Harshil Mathur | Co-founder & CEO |
| Shashank Kumar | Co-founder |

Source: LinkedIn, Company

Latest News

Oct'19: Appointed Amitabh Tewary (ex-VP at Mastercard) as its Chief Innovation Officer. He would be primarily responsible for expanding the company's engagement with banks, networks, and regulators and facilitate new payment and banking platforms and products.

Oct'19: Raised USD 18.4mn from its US-based parent firm for business expansion purposes.

Aug'19: Acquired Gurgaon-based 'Thirdwarch', a specialist in prevention of fraud for an undisclosed amount.

Jul'19: Announced intention to extend INR 6bn worth of collateralised loans to merchants by end-FY20, through its partnership with NBFC's. Simultaneously, the company mentioned that it would almost double its workforce to 800 during the fiscal year from around 450 earlier.

Jun'19: Raised funds worth USD 75mn from Ribbit Capital, Sequoia Capital, Tiger Global Management and Y Combinator.

Exhibit 107. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|-------|--------|--------|
| Net Sales (INR mn) | 8 | 216 | 901 |
| Sales Growth (%) | 840% | 2,608% | 316% |
| Operating Profit (INR mn) | -35 | -46 | -48 |
| Operating Profit Margin (%) | -437% | -21% | -5% |
| PAT (INR mn) | 3 | -6 | -35 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -604 | -455 | -1,152 |

Source: VCCEdge, JMFL

Instamojo (Instamojo Technologies Pvt. Ltd.)

Company Description

Founded in 2012 by Sampad Swain, Akash Gehani and Aditya Sengupta, Bengaluru-based Instamojo is a multi-channel payment gateway that caters to micro, medium & small enterprises (MSME's). The gateway processes payments through credit & debit cards, wallets, net banking and UPI.

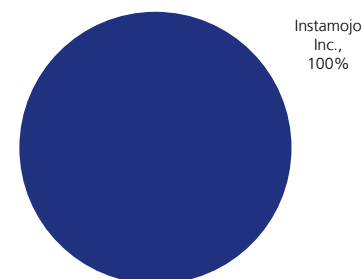
The company also helps the MSME's build and manage their business online through a lifetime free online store with built in payment options.

The company also offers customised value added services such as EMI-based payments, fraud detection, logistics support, working capital loans, marketing solutions, and accounting & taxation services, among others.

According to the company, its products and services are used by more than 1mn small business and startups.

The company which currently generates 78% of its revenue from payments business expects to achieve a 50:50 ratio payments and non-payments businesses (e-commerce and lending).

Instamojo: Shareholding as of 17Mar'19



Source: Tracxn, JMFL

Exhibit 108. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|--|
| Jul'12 | Angel | Undisclosed | Rajan Anandan, Sunil Kalra (both angel investors) |
| Oct'12 | Seed | Undisclosed | 500 Startups |
| Feb'13 | Seed | 0.25 | Blume Ventures, 500 Startups, Rajan Anandan, Sunil Kalra |
| Nov'14 | Series A | 5 | Kalaari Capital, Blume Ventures, 500 Startups |
| Aug'17 | Series A | Undisclosed | AnyPay, Kalaari Capital |
| Jan'19 | Series B | 7 | Gunosy, AnyPay, Kalaari Capital, Beenext, 500 Startups, Blume Ventures, Rashmi Kwatra (individual) |

Source: Tracxn, Media Reports

Instamojo: Key Management Personnel

| Name | Designation |
|-----------------|------------------|
| Sampad Swain | CEO & Co-founder |
| Aditya Sengupta | CTO & Co-founder |
| Akash Gehani | COO & Co-founder |

Source: Company

Latest News

Oct'19: Mentioned its plan to acquire an online platform to boost its e-commerce business.

Sep'19: Launched India's first public API for developers (Mojo Developers Program) that would help build innovative tools and solutions for MSME's.

Aug'19: A company official mentioned that the lending arm of the company has disbursed small ticket loans (avg. ticket size of INR 10,000-12,000) worth INR 1.1bn till now.

Jun'19: Partnered 'LegalWiz' to offer co-created courses on legal & compliance matters for startups and SME's.

Feb'19: Mentioned its plan to develop an app for micro merchants in the near term, raise USD 10mn in a Series C round in FY20 and expand operations to South East Asia, Africa, Middle East and Australia after FY20.

Exhibit 109. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 38 | 63 | 164 |
| Sales Growth (%) | 129.2% | 64.0% | 161.5% |
| Operating Profit (INR mn) | -30 | -29 | 1 |
| Operating Profit Margin (%) | -79.5% | -47.1% | 0.6% |
| Adj. PAT (INR mn) | -52 | -33 | -1 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -30 | -32.6 | -220.3 |

Source: VCC Edge, JMFL

Mobikwik (One Mobikwik Systems Pvt. Limited)

Company Description

Gurugram-based Mobikwik primarily offers a digital payments platform for mobile recharges and utility bills, merchant transactions and purchase of financial products. The company was founded in 2009 by Bipin Singh and Upasana Taku.

The company claims to be second largest in the mobile wallet category and a top three player in the payment gateway industry. Mobikwik has a network of more than 3mn merchants and 140+ billers, while over 1mn daily transactions are recorded from more than 107mn users on its platform. In 2018, Mobikwik introduced instant loans, enabled digital gold purchases, offered digital insurance on its platform while also acquiring 'Clearfunds', a mutual fund investments platform, as part of its efforts to offer a full stack of financial products.

Management expects consumer payments business to contribute c.60% of the group revenue in FY20 ([media report](#)), while financial products and bill payments businesses are likely to contribute remaining revenue, equally.

As per a [media report](#), the company is contemplating an IPO by 2022.

Exhibit 110. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-------------------|----------|-----------------|--|
| Jun' 13 | Series A | 5 | Sequoia Capital |
| Apr -Dec' 15 | Series B | 31.7 | Cisco Investments, Sequoia Capital, Tree Line Investment, American Express |
| Jul' 15 | Debt | 2 | InnoVen Capital |
| Apr - Aug' 16 | Series C | 90 | MediaTek, Sequoia Capital, Tree Line, GMO Venture, NET1, Cisco, Brand Capital, Cisco Investments, American Express |
| Aug' 17 | Series D | 35.2 | Bajaj Finserv |
| Apr' 18 | Debt | 4.5 | Trifecta Capital |
| Dec' 18 - Jul' 19 | Series E | 5 | Sequoia Capital, NET1, GMO Venture, New Delhi Television, Trifecta Capital and Tianying Fu, Gaurav Manglik (individuals) |

Source: Tracxn, Media Reports

Latest News

Jul'19: Raised USD1.3mn from New Delhi Television Ltd. and Trifecta Capital.

Jun-Jul'19: Management/Co-founders expressed hope that the company will report first quarterly profit at the EBITDA level in FY20, with revenue growing to INR4.8bn (vs. INR1.8bn, a year back).

Management also mentioned plans to raise USD 50mn before its IPO.

Jun'19: Max Bupa, a health insurer, announced an agreement with Mobikwik to offer bite size insurance products to the latter's 107mn customers in India.

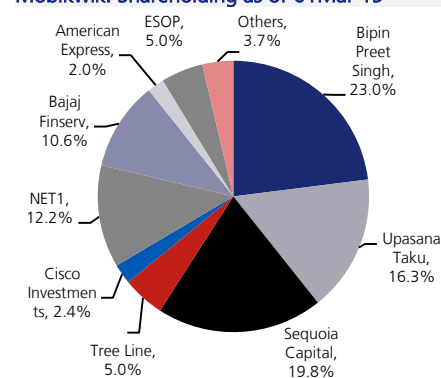
Jun'19: Announced plans to offer mobile recharge services in more than 150 countries covering ~550 mobile operators, in partnership with DT One, a global B2B company offering mobile recharge, rewards and credit services.

Exhibit 111. Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 271 | 369 | 772 |
| Sales Growth (%) | NA | 36.2% | 109.2% |
| Operating Profit (INR mn) | -1,246 | -1,377 | -2,106 |
| Operating Profit Margin (%) | -460% | -373% | -273% |
| PAT (INR mn) | -1,145 | -1,329 | -2,030 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -275 | -749 | -1,801 |

Source: VCCEdge, Tracxn, JMFL

Mobikwik: Shareholding as of 01Mar'19



Source: Tracxn

Mobikwik: Key Management Personnel

| Name | Designation |
|-------------------|-------------------------|
| Bipin Preet Singh | Founder, CEO & Director |
| Upasana Taku | Co-Founder & Director |

Source: Company

Juspay (Juspay Technologies Pvt. Ltd.)

Company Description

Bengaluru-based Juspay was founded in 2012 by Vimal Kumar and Ramanathan RV to offer world's first mobile payment browser.

The company helps online merchants process payments from net banking, credit & debit cards, UPI and wallets while simultaneously helping them improve transaction success rates on their platforms and generate performance insights from payment flows.

Juspay's payment solutions are optimized to operate in 2G networks thereby reducing the page load times during a transaction.

The company also offers value added services on top of existing payment gateways of the merchants that enable express checkouts.

Exhibit 112. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|--|
| Feb'15 | Angel | 0.308 | Ashish Hemrajani, Anupama Sharma, Haresh Chawla, Parikshit Dar, Rajesh Balpande, Raghupathi Ramakrishnan (all individuals) |
| Oct'16 | Series A | 5.83 | Accel and Ashish Hemrajani, Parikshit Dar and Rajesh Balpande (all individuals) |

Source: Tracxn, Media Reports

Latest News

Apr'18: Partnered Mobitel, a mobile service provider based in Sri Lanka to enable real time mobile wallet top-ups from any bank for the latter's customers.

Feb'17: Issued bonus shares with an aim to increase its paid-up capital after failing to meet the criteria to become a 'GST suvidha provider'.

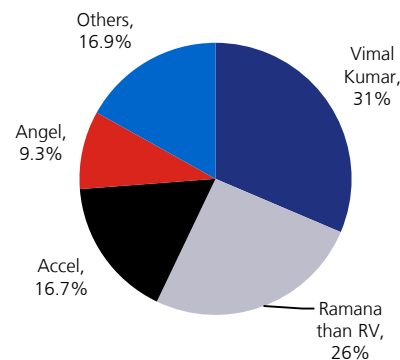
Feb'16: Raised INR 400mn at a valuation of INR 2bn from Accel and the founders of Bookmyshow (Ashish Hemrajani, Parikshit Dar and Rajesh Balpande).

Exhibit 113. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 30 | 89 | 129 |
| Sales Growth (%) | 74.1% | 193.9% | 44.4% |
| Operating Profit (INR mn) | -14 | -45 | -47 |
| Operating Profit Margin (%) | -46.3% | -50.0% | -36.7% |
| Adj. PAT (INR mn) | -9 | -46 | -34 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | 2 | -15.5 | -23.9 |

Source: VCC Edge, JMFL

Juspay: Shareholding as of 18Jan'17



Source: Tracxn, JMFL

Juspay: Key Management Personnel

| Name | Designation |
|--------------------------|--------------------|
| Vimal Kumar | Founder & Director |
| Ramanathan Radhakrishnan | Founder & Director |

Source: Company

Cashfree (Cashfree Payments India Private Limited)

Company Description

Cashfree is a Bengaluru-based, digital payments company founded by Akash Sinha and Reeju Datta in 2015 that helps businesses collect as well as disburse payments through around 100 payment modes including cards, UPI, wallets and IMPS/NEFT.

The company's API banking platform helps businesses payout money anytime to bank accounts, wallet and cards without the need for complicated processes.

Cashfree also offers value added services such as EMI's, recurring payments, instant refunds, split payment solution (for marketplaces) and pay later option.

The company's services are currently being used by more than 15,000 businesses with total processed volumes of INR 60bn till-date.

Exhibit 114. Investors, funding and M&A

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|--|
| Jun'17 | Seed | Undisclosed | Musha Ventures |
| Oct'17 | Seed | 0.12 | Y Combinator |
| Apr'19 | Series A | 5.87 | Smile Gate Investment, Y Combinator and George Osborne and Vellayan Subbiah (both individuals) |

Source: Tracxn, Media Reports

Latest News

Sep'19: Launched a value added payment solution 'Subscriptions' to help businesses collect recurring payments for utilities, mutual fund SIP's, etc.

Sep'19: Introduced instant refunds for online payments on e-commerce businesses.

Apr'19: Raised USD 5.5mn from Smile Gate Investment, Y Combinator and George Osborne and Vellayan Subbiah (both individuals) to increase its employee strength and widen the distribution of its API banking platform.

Feb'19: Launched virtual UPI ID's to enable automated reconciliation of UPI transfers for businesses.

Jan'19: Started offering PhonePe as a payment method on its payment gateway for merchants.

Dec'18: Started offering cardless EMI payment option of ZestMoney on its payment gateway.

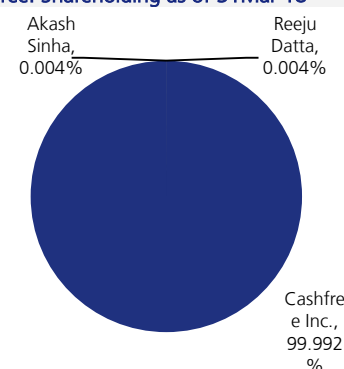
Dec'18: Partnered ePayLater to provide its pay latter option on the company's payment gateway for merchants.

Exhibit 115. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|------|-------|---------|
| Net Sales (INR mn) | NA | 10 | 71 |
| Sales Growth (%) | NA | NA | 616% |
| Operating Profit (INR mn) | NA | -0.4 | 20 |
| Operating Profit Margin (%) | - NA | -3.5% | 28.2% |
| PAT (INR mn) | NA | 0.1 | 14 |
| PAT Growth (%) | NA | NA | 10,585% |
| ROE (%) | NA | NA | 84% |
| Net Debt (INR mn) | 0.1 | -1.4 | -86 |

Source: VCC Edge, JMFL

Cashfree: Shareholding as of 31Mar'18



Source: VCC Edge, JMFL

Cashfree: Key Management Personnel

| Name | Designation |
|-------------|--------------------|
| Akash Sinha | Co-founder and CEO |
| Reeja Datta | Co-founder |

Source: LinkedIn

Pine Labs (Pine Labs Pvt. Ltd.)

Company Description

Founded in 1998, Pine Labs is a digital payments solutions provider based in Noida. The company enables retail merchants to accept payments through debit & credit cards, net banking, mobile wallets, UPI, reward points, meal and gift cards.

The company also offers value added solutions to merchants such as auto-reconciliation, real time analytics, instant EMI's for customers and other customer specific offers that help in acquiring new customers and repeat business.

In addition, Pine Labs offers working capital/ other business related loans to its existing customers (merchants) through its partnerships with non-banking finance companies (NBFC).

In 2017, the company entered into an exclusive partnership with CIMB Bank to offer its payments solutions to merchants in Malaysia.

Today, Pine Labs partners more than 100 leading brands, and its payments solutions are used by more than 100,000 merchants spread across more than 3,700 cities and towns in India and Malaysia.

The company acquired Qwikcilver, a gift solutions provider in Apr'19 for a total consideration of USD 110mn.

Exhibit 116. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---|
| Jun'09 | Series A | 20 | Sequoia Capital |
| Mar'18 | Series B | 82 | Actis, Altimeter Capital |
| Mar'18 | Series C | 125 | Temasek, PayPal |
| Apr'19 | NA | 66.7 | Actis, Temasek, Paypal and Advent International |

Source: Tracxn, Media Reports

Latest News

Aug'19: Enabled EMI facility on credit and debit cards on the company's PoS payments platforms used by around 85,000 merchants across 120,000 stores in India.

Jul'19: Raised INR 7bn (USD 100mn) from its Singapore-based parent company.

Jul'19: Company was sued by Innovati for infringement of its technology that enabled UPI payments at PoS.

Apr'19: Completed the acquisition of Qwikcilver, a gift solutions provider, for a total consideration of USD 110mn.

Apr'19: Raised USD 66.7mn from investors such as Actis Advisers, Temasek, PayPal and Advent International Corporation.

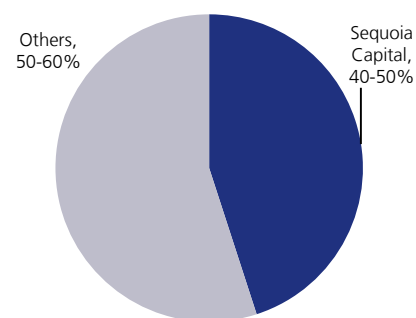
Feb'19: Partnered RAKBANK to assist it acquire and engage customers in UAE by offering value added services such as instant installments, rewards & loyalty programmes, instant discounts, and campaign management, among others.

Exhibit 117. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|-------|-------|-------|
| Net Sales (INR mn) | 1,210 | 1,912 | 2,992 |
| Sales Growth (%) | 38.0% | 58.1% | 56.5% |
| Operating Profit (INR mn) | 133 | 354 | 411 |
| Operating Profit Margin (%) | 11.0% | 18.5% | 13.7% |
| Adj. PAT (INR mn) | -105 | 38 | -25 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | 2.7% | NA |
| Net Debt (INR mn) | 91 | -7 | -48 |

Source: Company, VCC Edge, JMFL

Pine Labs: Latest Shareholding



Source: [Media Report](#), JMFL

Pine Labs: Key Management Personnel

| Name | Designation |
|---------------|--------------------|
| Lokvir Kapoor | Executive Chairman |
| Vicky Bindra | CEO |

Source: Company

Mswipe (Mswipe Technologies Pvt. Ltd.)

Company Description

Founded in 2011 by Manish Patel, Mumbai-based Mswipe supplies mobile PoS terminals that process card-based payments to small and medium-sized enterprises.

The company's USP is in supplying PoS terminals that are not only compact, wireless but also portable. Moreover, the company's devices also operate in 2G networks benefitting merchants and retailers in more remote areas or those on a modest budget.

More than 500,000 merchants own Mswipe supplied PoS devices.

Since May'19, the company also offers QR code based payment acceptance service for its merchants that runs on the company's Android-based PoS machines.

Mswipe also offers value added services such as inventory management features, working capital loans to merchants (through partner NBFC's) and other MIS supports.

Exhibit 118. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-------------------|----------|-----------------|---|
| Dec' 11 | Angel | 0.137 | Sumeet Gupta (individual investor) |
| Mar' 12 | Seed | 0.230 | DSG Consumer Partners and several individuals |
| Jan' 13 | Series A | 1.28 | Axis Bank, Matrix Partners, Haystack Partners, DSG Consumer Partners and individuals such as Alpa Ambavat, Kushal Shah, Samrat Chadha |
| Feb' 14 | Series B | 4.79 | Matrix Partners India, Axis Bank, DSG Consumer Partners |
| Jul' 15 | Series C | 25 | Ola, JSCapital, Falcon Edge Capital, Axis Bank, DSG Consumer Partners, Matrix Partners India |
| Jun' 17 – Aug' 18 | Series D | 41.9 | B Capital Group, Matrix Partners India, Falcon Edge Capital, DSG Consumer Partners, Epiq Capital Advisors |
| Mar' 19 | Series E | 31.5 | DSG Consumer Partners, Falcon Edge Capital, B Capital Group, Epiq Capital Advisors |

Source: Tracxn, Media Reports

Latest News

Jul'19: Launched MoneyStore, an app store specifically developed for merchant-centric apps. The app store had around 100 live apps at the time of the launch, with plans to increase the number to 200 apps.

Apr'19: Mswipe announced plans to develop new 'smart' POS – Wise POS plus that allow applications like billing, inventory management and logistics to be pulled in. Other value added product under development mentioned was MoneyStore that would house a suite of productivity apps and related services for smaller retailers.

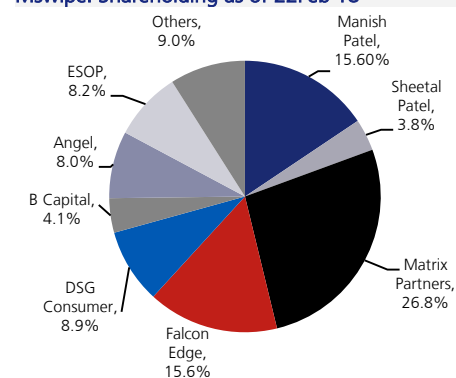
Mar'19: Raised \$31.5m (INR 2.2bn) from DSG Consumer Partners, Epiq Capital and Falcon Edge (total funding till date reached \$105m). These funds would be used to expand the present business activities of the company by financing the working capital and other business operation requirements.

Exhibit 119. Consolidated Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|-------|--------|
| Net Sales (INR mn) | 502 | 1,338 | 1,883 |
| Sales Growth (%) | 623% | 167% | 40.8% |
| Operating Profit (INR mn) | -271 | -102 | -369 |
| Operating Profit Margin (%) | -53.9% | -7.6% | -19.6% |
| PAT (INR mn) | -263 | -129 | -665 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | NA | NA | NA |

Source: VCC Edge, Tracxn, JMFL

Mswipe: Shareholding as of 22Feb'18



Source: Tracxn

Mswipe: Key Management Personnel

| Name | Designation |
|--------------|---------------|
| Manish Patel | Founder & CEO |

Source: Company

Ezetap (Ezetap Mobile Solutions Private Limited)

Company Description

Founded in 2011, Bengaluru-based Ezetap offers payment acceptance solutions such as Point of Sale (POS) machines and light weight card readers that can be attached to a smart device.

The company helps businesses accept payments through a wide range of payment options such as mobile wallets, UPI, credit/debit cards, cheques and cash, through its flagship platform 'Universal Payments Acceptance' which was launched in 2015.

Ezetap also several offers value added services to merchants such as payments acceptance through a web interface, EMI conversion solution, multi entity payments acceptance on a single device, multi-bank acquiring solutions that helps optimize MDR costs for merchants, auto-reconciliations and smart charge slips, among others.

Exhibit 120. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---|
| Aug' 12 | Series A | 3.5 | NA |
| Feb' 14 | Series B | 8 | Helion Venture Partners, Berggruen Holdings, Social Capital |
| Mar' 14 | Series B | Undisclosed | American Express Ventures |
| Aug' 15 | Series C | 23.5 | Berggruen Holdings, Capricorn, Helion Venture Partners, Horizons Ventures, Social Capital |
| Aug' 17 | Series C | 16 | JSCapital, Social Capital, Horizons Ventures |

Source: Tracxn, Media Reports

Latest News

Mar'19: Announced the appointment of Byas Nambisan (CFO since 2014) as the company CEO following the departure of its founder, Abhijit Bose.

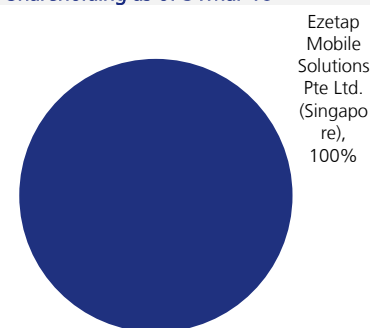
Mar'18: Announced partnership with PoS device maker Verifone which would help the company offer its customized mobile payments solutions on the latter's terminals.

Exhibit 121. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|-------|------|
| Net Sales (INR mn) | 224 | 438 | 451 |
| Sales Growth (%) | 111.4% | 95.2% | 3.0% |
| Operating Profit (INR mn) | -366 | -286 | -347 |
| Operating Profit Margin (%) | -163% | -65% | -77% |
| PAT (INR mn) | -396 | -307 | -405 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -19 | 105 | 380 |

Source: VCC Edge, JMFL

Ezetap: Shareholding as of 31Mar'18



Source: Company, VCCEdge, JMFL

Ezetap: Key Management Personnel

| Name | Designation |
|----------------------|-------------------------|
| Byas Nambisan | Chief Executive Officer |
| Abhijit (Bobby) Bose | Co-founder and Director |

Source: Company

Oxygen (Oxygen Services India Pvt. Ltd.)

Company Description

Oxygen is a digital payments infrastructure and solutions provider based in Gurugram. The company was incorporated in 2004 by Pramod Saxena.

Oxygen's payments infrastructure includes POS machines for merchants, micro ATM's for retailers and web & mobile solutions for retail ticket booking agents. Other product and solutions of the company include a mobile wallet (India's first wallet – introduced in 2008), co-branded debit cards, domestic remittances and branchless banking, among others.

The company's value added services include small ticket lending, insurance/investment products purchase at retail outlets and assisted e-commerce.

Since inception, the company claims to have processed more than 2 billion payment transaction (current rate is above 600 million annual transactions) worth more than USD 4bn through its network of more than 200,000 retail touch points, that cater to more than 150 million customers and offer >60 services.

Exhibit 122. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---|
| Jun'04 | Seed | 0.92 | NA |
| Mar'06 | Series A | 11.5 | Citi, Gautam Nayak (individual investor) |
| Jan'08 | Series B | 38.1 | Microsoft Ventures |
| Jan'16 | Angel | 0.589 | Anjali Sachin Tendulkar (individual investor) |

Source: Tracxn, Media Reports

Latest News

Feb'19: Announced the launch of instant credit facility (Buy now, Pay later) for consumers through in-app billers by partnering with ePayLater.

Jun'18: Started offering insurance products of IndiaFirst Life Insurance through its network of retail outlets.

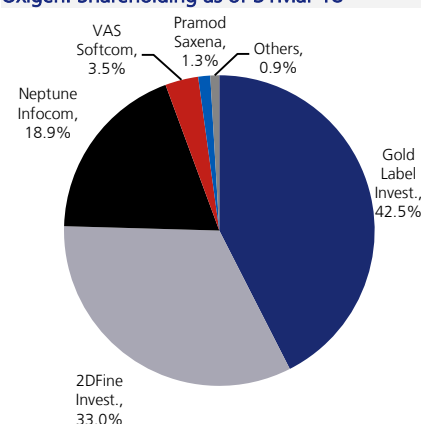
Feb'18: The company was reportedly considering raising USD 70mn from UK-based investors.

Exhibit 123. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 8,296 | 27,366 | 10,273 |
| Sales Growth (%) | -68.2% | 229.9% | -62.5% |
| Operating Profit (INR mn) | 290 | 118 | 139 |
| Operating Profit Margin (%) | 3.5% | 0.4% | 1.4% |
| Adj. PAT (INR mn) | 98 | -10 | 22 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | 11.7% | NA | 1.9% |
| Net Debt (INR mn) | -93 | 823 | 1,014 |

Source: VCC Edge, JMFL

Oxygen: Shareholding as of 31Mar'18



Source: Tracxn, JMFL

Oxygen: Key Management Personnel

| Name | Designation |
|----------------|----------------------------|
| Pramod Saxena | Founder, Chairman & MD |
| Ankur Saxena | Vice Chairman and Joint MD |
| Sunil Kulkarni | Joint MD |
| Rajpal Duggal | Group CFO |

Source: Company

Novopay (Novopay Solutions Pvt Ltd.)

Company Description

Bengaluru-based Novopay was founded in 2014 by Srikanth Nadamuni, Gautam Bandyopadhyay and Sridhar Rao. The company helps offline merchants accept card, UPI, mobile wallets, IMPS and NEFT payments either through mPOS devices/QR codes or through deviceless payments acceptance solutions (e.g. payment links).

In addition, the company enables small merchant outlets (spread across 20 states) to collect assisted payments for bills/recharges/tickets, money transfer/remittances (in partnership with partner banks), financial services (insurance, fixed deposits and mutual funds) or government payments (property and professional tax).

Other businesses of the company include facilitating end-to-end automated loan origination online backed by its proprietary artificial intelligence solutions.

Exhibit 124. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---------------|
| Jun'14 | Seed | 2.02 | Khosla Labs |
| Jan'15 | Series A | 5.79 | IDFC |
| Sep'16 | Series A | 1.99 | Khosla Labs |
| Oct'18 | Series A | 0.164 | Khosla Labs |

Source: Tracxn, Media Reports

Latest News

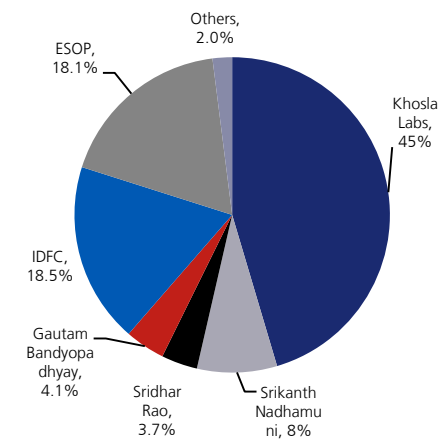
Sep'15: Announced the launch of its mobile wallet aimed at peer-to-peer money transfers and remittances.

Exhibit 125. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|---------|--------|--------|
| Net Sales (INR mn) | 153 | 207 | 275 |
| Sales Growth (%) | 664.0% | 35.5% | 32.5% |
| Operating Profit (INR mn) | -300 | -187 | -71 |
| Operating Profit Margin (%) | -195.7% | -90.2% | -25.9% |
| Adj. PAT (INR mn) | -298 | -200 | -93 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -75 | -61 | -117 |

Source: VCC Edge, JMFL

Novopay: Shareholding as of 30Oct'18



Source: Tracxn, JMFL

Novopay: Key Management Personnel

| Name | Designation |
|----------------------|-----------------------|
| Srikanth Nadhamuni | Co-Founder & Chairman |
| Gautam Bandyopadhyay | Co-Founder |

Source: LinkedIn

PayMate (PayMate India Pvt. Ltd.)

Company Description

Founded in 2006, Mumbai-based PayMate started as a mobile payments (online retail purchases, utility payments, ticket bookings etc.) platform for retail customers and later in 2012 started offering mobile point of sale solutions (mPOS).

Today, the company has transformed itself in to one of the leading digital payments solutions provider for more than 30,000 large, small and medium scale enterprises and processes around USD 5bn worth of payments, annually.

PayMate through its proprietary payments platform helps businesses automate the entire procurement-to-payment cycle spread across vendor payments (payables), customer payments (receivables), invoices, discounts and tax/GST payments.

The company has forged a partnership with Visa to extend its digital payments services to the latter's customers in India, Central and Eastern Europe, Middle East, and Africa.

PayMate also offers easy credit facilities to small and medium enterprises for their working capital requirements, based on credit data points collected at the time of processing payments.

Exhibit 126. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|--|
| Jul' 06 | Series A | 5.0 | Sherpalo Ventures, Murugan Capital, Kleiner Perkins, Lightbox Ventures |
| Jun' 08 | Series B | 9 | Mayfield, Sherpalo Ventures, Kleiner Perkins, Lightbox Ventures |
| Feb' 12 | Angel | 1.4 | Anand Rajaraman (Individual investor) |
| Sep' 14 | Series B | 2.44 | Lightbox Ventures |
| Oct' 17 | Series C | 2.49 | IPO Wealth |
| Jul' 19 | Series D | 25 | Mayfair 101, Recruit Strategic Partners, Brand Capital, Visa |

Source: Tracxn, Media Reports

Latest News

Jul'19: Raised USD 25mn from Recruit Strategic Partners, Brand Capital, Mayfair 101 and Visa in a Series D funding round in order to expand its domestic operations as well as global operations (Central and Eastern Europe, Middle East, and Africa).

Mar'19: Announced partnership with Visa to offer payment services through its proprietary platform to the latter's corporate clients in the Central and Eastern Europe, Middle East and Africa region.

Oct'18: Announced plans to offer credit facilities (in collaboration with banks and NBFC's) to small businesses based on their credit data collected at the time of processing payments through its platform.

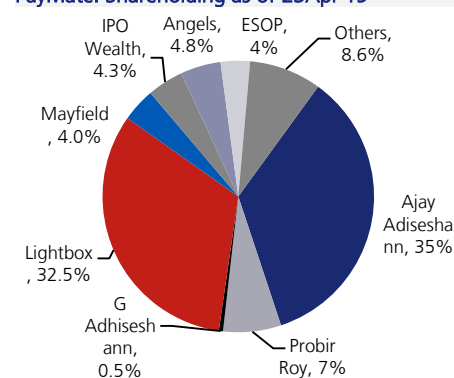
May'18: Acquired Bhopal-based peer to peer lending platform Z2P Technologies.

Exhibit 127. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|--------|--------|--------|
| Net Sales (INR mn) | 187 | 273 | 549 |
| Sales Growth (%) | 163% | 45% | 101% |
| Operating Profit (INR mn) | -71 | -49 | -57 |
| Operating Profit Margin (%) | -37.7% | -18.1% | -10.5% |
| PAT (INR mn) | -71 | -54 | -56 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -40 | 20 | 29 |

Source: VCCEdge, JMFL

PayMate: Shareholding as of 23Apr'19



Source: Tracxn, JMFL

PayMate: Key Management Personnel

| Name | Designation |
|-------------------|---------------|
| Ajay Adishesha | Founder & CEO |
| Ravi Vishvanathan | Director |

Source: Company

Suvidhaa (Suvidhaa Infoserve Pvt. Ltd.)

Company Description

Founded in 2007 by Paresh Rajde, Suvidhaa primarily facilitates utility/mobile bills and recharges, travel ticket bookings (air/rail/bus) and domestic remittances through a network of more than 91,000 partner retail outlets covering >4,500 pin codes across the country.

The company is also engaged in the distribution of personal/business loans, mutual funds, insurance policies and pre-paid/gift cards.

In 2015, Suvidhaa acquired AasaanPay, a mobile point of sale platform for an undisclosed amount, that facilitates credit/debit card transactions as well as on the spot cash withdrawals.

Overall, the company claims to process transactions worth INR 100bn annually and serve around 45 million customers.

Suvidhaa launched its e-commerce platform 'Suvideals' (suvideals.ooo) in Aug' 2019 through which it conducts exclusive clearance sales for only a few branded products each day at highly discounted prices. The platform replaces 'infibeam.com' which was earlier owned by Infibeam Avenues through its wholly-owned subsidiary NSI Infinium Global Private Ltd.

Exhibit 128. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|--|
| Jun' 07 | Seed | Undisclosed | NA |
| Sep' 08 | Series A | 4.7 | Reliance Venture Asset Management, Norwest Venture Partners |
| Aug' 10 | Series B | 7.0 | Norwest Venture Partners, Reliance Venture Asset Management, IFC |
| Nov' 11 | Series C | 12.0 | Mitsui & Co. |

Source: Tracxn, Media Reports

Latest News

Aug'19: Announced the launch of its exclusive clearance sale business through the launch of an e-commerce platform 'Suvideals' that focuses on selling few branded products per day at highly discounted prices.

Dec'18: Acquired 5% stake along with control in NSI Infinium Global Private Ltd. (owner of the online platform infibeam.com) for a consideration of INR 250mn.

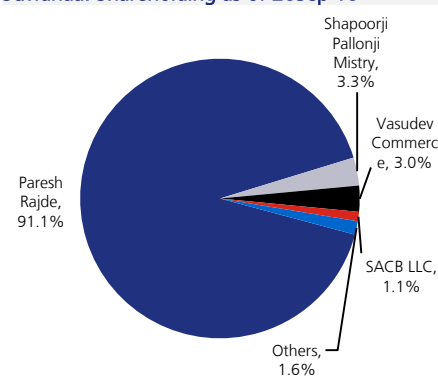
Suvidhaa will gradually acquire the remaining 95% stake in the target company in lieu of cash and stock payments to Infibeam Avenues Limited, the parent company.

Exhibit 129. Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|-------|--------|--------|
| Net Sales (INR mn) | 850 | 621 | 188 |
| Sales Growth (%) | 43.1% | -27.0% | -69.6% |
| Operating Profit (INR mn) | -198 | -137 | -6 |
| Operating Profit Margin (%) | -23% | -22% | -3% |
| PAT (INR mn) | -204 | -113 | 41 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -70 | 72 | 19 |

Source: VCC Edge, JMFL

Suvidhaa: Shareholding as of 28Sep'18



Source: Company, VCC Edge, JMFL

Suvidhaa: Key Management Personnel

| Name | Designation |
|--------------|-----------------------------|
| Paresh Rajde | Founder & Managing Director |

Source: Company

Ftcash (Nomisma Mobile Solutions Ltd.)

Company Description

Ftcash is a Mumbai-based digital payments solutions (both software and hardware) and loans provider to small and micro-businesses. The company was founded in 2015 by Sanjeev Chandak, Deepak Kothari and Vaibhav Lodha and was incubated by PayPal.

Ftcash does not charge businesses any upfront or rental fees (except nominal setup cost of INR 300) for its digital payments solutions that are designed to accept payments from credit/debit cards, net banking, PayPal, UPI and mobile wallets, among others.

Moreover, the company leverages its proprietary technology to gauge the credit worthiness of small/micro businesses by analysing the transaction flows on its payments platform, which can then be used by these enterprises to access micro-credit from financial institutions without the need for collateral or credit history or a cumbersome process.

Ftcash also offers a product called loan forbearance which offers small enterprises the flexibility of temporarily deferring loan repayments over a period of 3-12 months or resetting the loan interest rates to lower rates in case of financial stress.

As of May' 2019, the company's financial services were availed by over 30,000 merchants.

Exhibit 130. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------|-----------------|---|
| Mar' 16 | Seed | 0.192 | IvyCap Ventures, Rajiv Vohra (individual investor) |
| Jun' 16 | Seed | 0.476 | IvyCap Ventures, Singapore Angel Network, TracxnLabs, Space-O Technologies and several individual investors |
| Jun' 17 | Seed | 1.04 | IvyCap Ventures, 500 Startups |
| Apr' 18 | Seed | 0.921 | IvyCap Ventures |
| May' 19 | Series A | 7.17 | FMO, Accion, IvyCap Ventures |

Source: Tracxn, Media Reports

Latest News

May'19: Raised INR 500mn in a Series A funding round led by Accion, FMO (Netherlands Development Finance Company) and IvyCap Ventures.

The raised funds will be utilized towards product development and for expansion in newer geographies.

Jun'17: Launched mobile point of sale (mPoS) services for around 500 small and medium automobile service centers.

Jun'17: Raised USD 1mn from 500 Startups and IvyCap Ventures in a pre-Series A round.

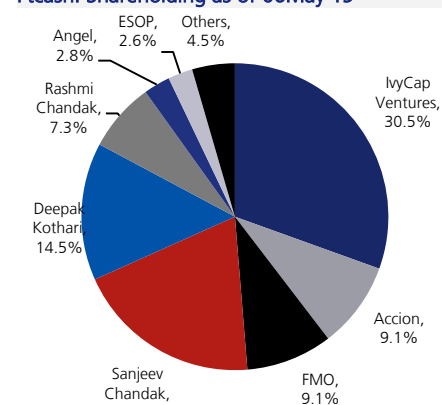
Mar'17: Started offering digital loans backed by cash flows data of merchants captured through its own payments platform by tying up with multiple NBFC's, at annual interest rates ranging between 15-25% with ticket size ranging from INR 30,000 to INR 0.6mn.

Exhibit 131. Standalone Financial Summary

| Y/E March | FY16 | FY17 | FY18 |
|-----------------------------|------|--------|-------|
| Net Sales (INR mn) | 0.38 | 30.2 | 51.7 |
| Sales Growth (%) | NA | 7,834% | 71.5% |
| Operating Profit (INR mn) | -9.2 | -44.5 | -61.0 |
| Operating Profit Margin (%) | NM | -148% | -118% |
| PAT (INR mn) | -7 | -46 | -58 |
| PAT Growth (%) | NA | NA | NA |
| ROE (%) | NA | NA | NA |
| Net Debt (INR mn) | -4.2 | -0.8 | -1.9 |

Source: VCCEdge, JMFL

Ftcash: Shareholding as of 06May'19



Source: Tracxn, JMFL

Ftcash: Key Management Personnel

| Name | Designation |
|-----------------|--------------------|
| Sanjeev Chandak | Co-founder and CEO |
| Vaibhav Lodha | Co-founder |
| Deepak Kothari | Co-founder |

Source: Company

SBI Payment (SBI Payment Services Private Limited)

Company Description

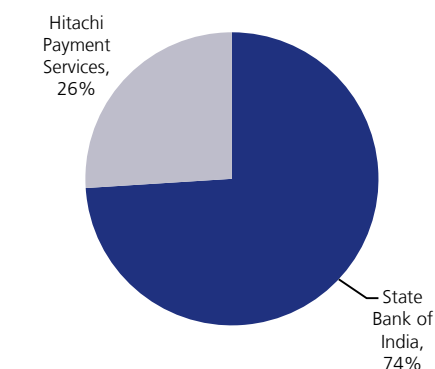
SBI Payment is a joint venture between State Bank of India (SBI) and Hitachi Payment Services that offers several digital payments solutions to merchants such as swipe & pay point-of-sale (PoS) machines, scan & pay Bharat QR (Quick Response) codes and touch & pay BHIM-Aadhar.

The JV was formed in Jan'2019 to create a state-of-the art technology payments platform and create synergies by leveraging the tech capabilities and domain expertise of Hitachi with SBI's vast infrastructure and distribution network. Earlier, the company was incorporated in 2010 and used to operate as a wholly-owned subsidiary of SBI.

Other digital payment solutions offered by the company include electronic toll collection, Cash at PoS and multi option payment acceptance device (MOPAD), among others.

As of May' 2019, SBI Payment had deployed around 600,000 PoS machines across the country with plans to double these deployments by FY22.

SBI Payment: Shareholding as of 19Jan'19



Source: Tracxn, JMFL

Exhibit 132. Investors, funding and M&A's

| Announced | Round | Amount (USD mn) | Key Investors |
|-----------|----------------|-----------------|--------------------------|
| Jan'19 | Private Equity | 218 | Hitachi Payment Services |

Source: Tracxn, Media Reports

SBI Payment: Key Management Personnel

| Name | Designation |
|-------------------|-------------------|
| Ram Narayana Boga | Ram Narayana Boga |
| Aditya K Sengar | CFO |

Source: Company

Latest News

Jul'19: Announced plans to increase its market share in digital payments processed at merchants outlets by doubling the number of PoS machines deployed by the company to 1.2mn by FY22.

Mar'19: Formal launch of the JV between SBI and Hitachi Payment Services aimed establishing a digital payments platform for India and other countries in the region.

Jan'19: Hitachi Payment Services agreed to buy 26% in the company for an undisclosed amount.

Exhibit 133. Standalone Financial Summary

| Y/E March | FY17 | FY18 | FY19 |
|-----------------------------|-------|-------|--------|
| Net Sales (INR mn) | 110 | 214 | 5,342 |
| Sales Growth (%) | 39.8% | 94.8% | 2,394% |
| Operating Profit (INR mn) | 8 | 15 | 105 |
| Operating Profit Margin (%) | 7.5% | 7.1% | 2.0% |
| Adj. PAT (INR mn) | 6 | 11 | -488 |
| PAT Growth (%) | 71.6% | 73.2% | NA |
| ROE (%) | 28.1% | 37.2% | NA |
| Net Debt (INR mn) | -6 | -0.4 | -2,611 |

Source: Company, VCC Edge, JMFL

Appendix –A

How have the digital payments evolved in India?

Digital payments in India started growing with advent of e-commerce companies, which was followed by launch of various wallet companies. With the help of Uber, which allowed usage of services only with Paytm account creation initially, the wallet company saw a robust growth in its early set of users. While e-commerce companies provided discounts and convenience of ordering products sitting at home, Paytm lured customers by rolling out cashback offers which pulled a huge volume of transactions online. Increasing smart phone penetration aided this growth trend while demonetisation gave an extra push to all digital channels as access to cash remained difficult for some months after the event. Many merchant and user accounts were created on Paytm and other apps during Dec'16 – Jun'17 and a sizeable population of consumers started using online and offline non-cash methods to make payments for even daily consumables such as groceries, food etc.

From the merchants' perspective, QR codes became popular with high reach after its introduction in 2015 by Paytm. Post demonetisation, Paytm deployed a number of agents on ground and started pushing QR codes, which saw a sudden uptick in its merchant partner tie-ups due to availability of a physical non-cash option, for which merchants did not have to pay any subscription charges (like in case of a POS machine). From the user's perspective, Unified Payments Interface (UPI) brought about a major change as it allowed inter-bank transfers without the hassle of adding account details and the benefit of immediate transfers with just an email id. Within 2 years of its launch, number of monthly UPI-based transactions are touching almost 1 billion mark. We will discuss UPI in detail later in this report.

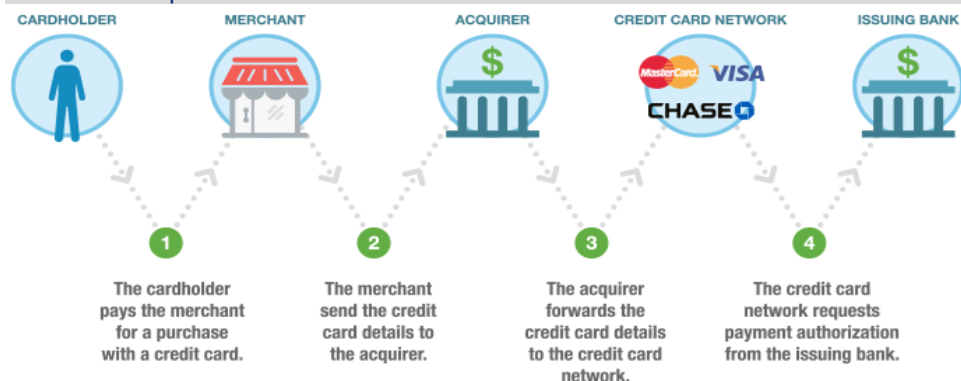
In the meanwhile, government push, regulatory support and technology enablement kept helping the industry grow. IMPS service in 2010, AEPS and NACH in 2012, payment banks in 2014, UPI, BHIM and demonetisation in 2016 were some of the events / launches which pushed digital payments further. Other key initiatives by the government include – relief of service tax on digital transactions / MDR upto INR 2000 /transaction; bearing of MDR charges on digital payments by state governments and PSUs; incentives on online purchase of railway tickets; support on issuance of 'Rupay Kissan Cards' to 43.2 million kisan card holders through NABARD; deployment of 2 POS devices across 1 lakh villages, etc. The government continues to push India towards being a cashless economy in every way possible, while incentivising the various stakeholders. It however remains to be seen, how such government pushed services will pan out once the incentives cease to exist, especially for the price sensitive segment of population (primarily merchants).

Government initiatives and service launches have helped the growth in digital payments industry

Appendix – B

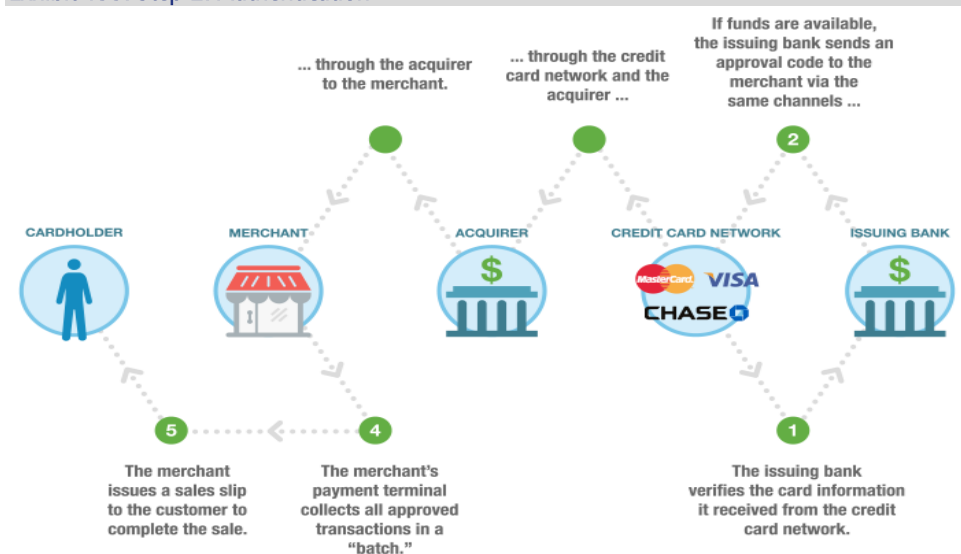
How card transaction processing works?

Exhibit 134. Step-1: Authorization



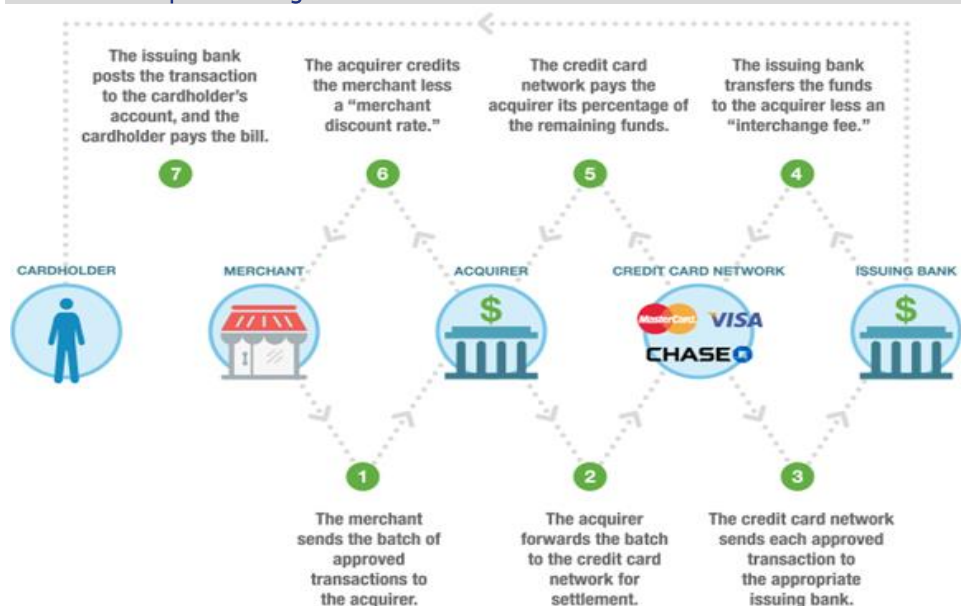
Source: <https://wallethub.com/edu/cc/credit-card-transaction/25511/>

Exhibit 135. Step-2: Authentication



Source: <https://wallethub.com/edu/cc/credit-card-transaction/25511/>

Exhibit 136. Step-3: Clearing & Settlement



Source: <https://wallethub.com/edu/cc/credit-card-transaction/25511/>

APPENDIX I

JM Financial Institutional Securities Limited

(formerly known as JM Financial Securities Limited)

Corporate Identity Number: U67100MH2017PLC296081

Member of BSE Ltd., National Stock Exchange of India Ltd. and Metropolitan Stock Exchange of India Ltd.

SEBI Registration Nos.: Stock Broker - INZ000163434, Research Analyst – INH000000610

Registered Office: 7th Floor, Cnergy, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India.

Board: +9122 6630 3030 | Fax: +91 22 6630 3488 | Email: jmfinancial.research@jmfl.com | www.jmfl.com

Compliance Officer: Mr. Sunny Shah | Tel: +91 22 6630 3383 | Email: sunny.shah@jmfl.com

| Definition of ratings | |
|-----------------------|--|
| Rating | Meaning |
| Buy | Total expected returns of more than 15%. Total expected return includes dividend yields. |
| Hold | Price expected to move in the range of 10% downside to 15% upside from the current market price. |
| Sell | Price expected to move downwards by more than 10% |

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