SAC Knowledge Hub

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Source: Financial Times

Alternative Payments

Data and analytics is leading a wave of revolutionisation of commerce and payments, with rich content on purchase history providing deep insights into consumer's preferences and buying patterns. The traditional incumbents are leveraging customer and merchant data to glean insights which can help add value to both sides driving increased consumer adoption, merchant acceptance as well as potential monetisation in the future. While we are cognisant that this space is attracting a lot of interest from the payments provider, in this report, we focus and look at three main emerging trends we think will revolutionise the payments landscape in the next five to ten years.

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Emerging Trends in Payments

Over the last few years, we have seen a seismic wave of alternative payments platform emerging. While some of this remains a work-in-progress, we see three emerging trends that have emerged from the rise of alternative payments. In particular, we are starting to see (i) mobile payments moving towards mainstream, (ii) platform-based payments platforms and (iii) blockchain technology start to gain traction. In this report, we will attempt to highlight three of the most important emerging trends that we see in the payments market and some of the leading players in this space. Looking ahead, we see massive potential in this space. According to payments website PYMTS.com, mobile payment users are expected to double by the end of the decade, fueling investments in this area.

Leading players in the digital payments space

There are currently a few leading players in the digital payments space, and while there is constant debate over who will eventually be the "winner", we view a single winner in this space as extremely unlikely. Instead, we think a wallet payments eco-system which houses multiple players is more likely.

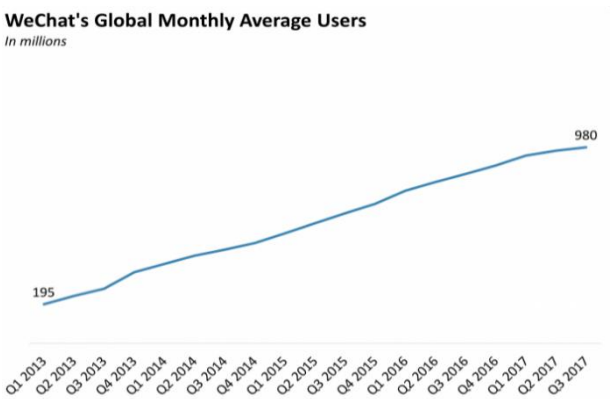
Source: BI Intelligence

Amongst the players currently in the industry, PayPal was first to market and has a first-mover's advantage. Amazon Pay is one of the leading players currently (with 295 million accounts spread across 170 countries). Visa Checkout (with over 250,000 merchants spread across 16 countries) along with MasterPass (also with over 250,000 merchants but in 29 countries) are also leading the pack as they leverage on their banking relationships.

We believe the smartphone players will also see wider adoption of their services (Apple Pay and Samsung Pay) in the future – even though growth rates have been disappointing so far – given their scale and branding.

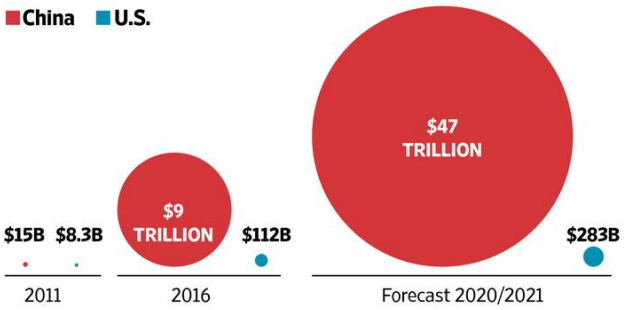
Three emerging trends in the rise of alternative payments

1. <u>Mobile payments moving towards mainstream:</u> There are clear signs of mobile payments gaining momentum especially for in-app and in-store. Mobile payments in-store have garnered huge success in countries such as China with WeChat Pay leading the mobile payment transactions in China. Mobile payments appeal in emerging markets because consumers need only a smartphone to transfer funds via Quick Response ("**QR**") code. The success of WeChat and to a certain extent AliPay, has propelled China to be the world's largest digital-payments market dominated by the two players.



Source: Tencent

According to a report by iResearch (China) and Forrester, when it comes to mobile payments, China dwarfs the US.



Source: iResearch (China), Forrester (US)

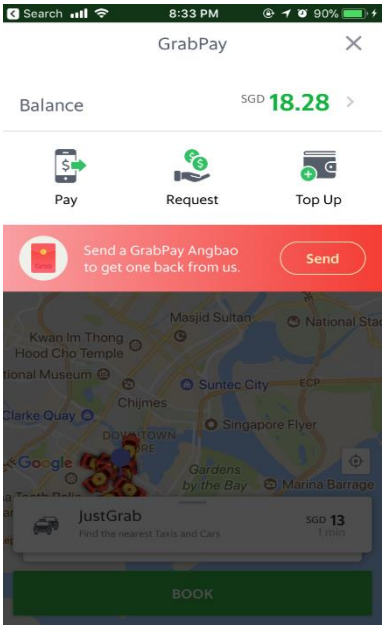
In 2011, China's total mobile payments transaction was already almost double that of the US at US$15 billion vs. US$8.3 billion. In 2016 however, the total mobile payments transactions grew to US$9 trillion for China vs. US$112 billion for the US. By 2020, China's mobile payments transactions is expected to increase by more than 5x to US$47 trillion, a whopping 166x the size of the US.

The two players, Tencent Holdings Ltd and Alibaba Group Holdings Ltd are now looking to roll out their mobile payments app worldwide. According to a report by Fortune Magazine, Tencent, the parent company of leading Chinese app WeChat, can now roll out its mobile payments app WeChat Pay for local transactions to consumers in Malaysia. This is the first time Tencent has been able to introduce its mobile payment app outside of mainland China. The change comes after Tencent was granted a license by Malaysia and comes at an important time as Tencent aims to grow WeChat internationally. Already, there are 20 million active WeChat users from Malaysia out of a total 980 million WeChat monthly active users.

We see the above move as inevitable given that WeChat is already nearing saturation within its domestic market, meaning that any future growth will depend on international adoption. According to estimates by Tencent Holdings, roughly 83% of all smartphone users in China use WeChat. Their penetration in Tier 1 cities is even higher at 93%. In light of this, Tencent Holding and Alibaba Group are now expanding their services globally to other Asian markets, from Indonesia to India.

Future of mobile payments

In our view, creating a strong value proposition is probably the single most important driver of sustained engagement with the user. While Samsung Pay is doing this through the use of loyalty rewards program to entice the user, the best value proposition in our view comes from a platform of services, rather than standalone payments. The Amazon Payments platform for instance, includes an online marketplace, a deeply entrenched delivery network, entertainment (video/music), and a whole plethora of other services. Paypal also offers users a platform of value-add services like credit, digital money transfer and peer-to-peer ("**P2P**") payments for instance.



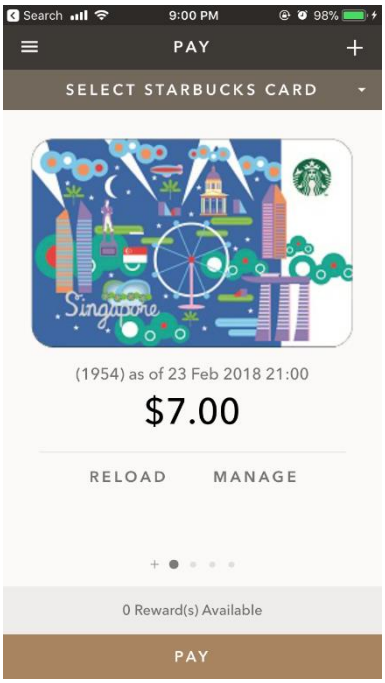
Source: SAC Advisors

In Singapore, Grab – a Singapore-based technology company that offers ride-hailing and logistics services through its app in Singapore and neighbouring Southeast Asian nations such as Malaysia, Indonesia, Philippines, Vietnam, Thailand, Myanmar, and Cambodia – also recently launched their GrabPay platform that allow users to pay for taxi rides and even food at certain hawker centres with GrabPay. A screengrab of this can be seen in the image above.

We think that other platforms will also emulate a similar move which we believe will increase the stickiness of the App for the user.

Future of mobile payments (cont'd)

Globally, retailers like Starbucks, Wal-Mart and Kohl's have the abilities to drive digital engagement with their brand.



Source: SAC Advisors (Image of Starbucks Wallet)

From our observation, each type of mobile wallet provider trys to carve out a niche of offerings for themselves. Financial institutions in the US and in Singapore are also rapidly developing their own in-app experience. Wells Fargo and Chase for instance provide customers a feeling of security given their long standing reputation for providing secure banking services and a whole myriad of banking solutions such as P2P, bank transfers and loan requests.

Singapore also took another step towards becoming a cashless society with a new fund transfer option that requires just a mobile phone number of NRIC number. The PayNow system, which started in July last year, will be offered by seven banks. Inter-bank cash transfers can now be done easily through a mobile phone app. The push towards innovation in payments will help address an issue highlighted by Prime Minister Lee Hsien Loong earlier this year when he said that compared with other countries, Singapore could do more to promote cashless payments, in hawker centres, in shops and between people.

And this is already happening, in Singapore, we have seen an increased adoption by hawker centres that accept standardised QR code payment. The cashless payment option has been rolled out to over 50 stalls in the Tanjong Pagar hawker centre. Customers can pay with DBS Paylah!, OCBC's PayAnyone, and UOB's Mighty. We see vendors benefitting from this as this simplifies the cash collection process and the need for hawkers to handle cash.

Source: The Straits Times (Image of PayNow payment at a hawker stall)

We view the above developments positively, and view mobile payments as being an important part of the cashless society eco-system in Singapore and worldwide.

India's large market size appeal to providers

We also believe that the payment providers will continue to expand in Asia. India for instance, is a huge market. When the Indian government abruptly canceled 86% of currency in circulation (Source: Bloomberg) in 2016 to clamp down on corruption and tax evasion, Paytm swooped in. It assisted India's merchants – the vast majority of which do not accept credit cards because they lack swiping machines – with stickers bearing the Paytm logo and QR codes. And the result? Paytm's service's user numbers soared.

Source: Reuters (Image of store vendor with Paytm logo)

Today, Paytm is used in India to pay for items from roadside hawkers, rides from auto rickshaws and more. Sellers do not need special gadgets beyond the QR code, which transfers money from a buyer's mobile account into the vendor's. Paytm also received a boost in 2017, when Japan's Softbank Group invested US$1.4 billion into it.

In 2016, Tencent also led a US$175 million round of fundraising in Indian messaging app Hike Ltd. In June 2017, Hike brought a payments feature to its platform, beating other large competitors with the help of Tencent.

Alphabet's Google also announced in 2017 their intention to launch its own mobile-payment smartphone app in India, which people can use to transfer money to individuals and businesses without the use of a credit or debit card.

The other major market that the payments provider have reached out to, is Indonesia. Ant Financial has partnered with Indonesian media conglomerate Emtek to launch a digital-payments service in that country. Alibaba has also been helping startups learn to use new cloud technologies to handle transactions efficiently in their home market. Engineers for Emtek for instance, traveled to Alibaba's headquarters in Hangzhou for training in cloud technologies.

As the payment providers expand into Asia, we think that the large players like Alibaba and Tencent will have an early-mover advantage due to their huge amount of experience in handling massive transactions. That kind of experience, is what the smaller players lack at the moment.

Finally, Visa and Mastercard are uniquely positioned with a wide variety of global platform services that other service providers will find difficult to emulate, given that it is backed by a global network of brand acceptance and recognition.

The second trend we see is the Internet of Things ("**IoT**") driving new payment methods.

2. IoT driving new payment methods: Amazon caused a stir in January this year when they announced it will open its first checkout-free grocery store to the public, moving forward with an experiment that could dramatically alter the way bricks-and-mortar retail is being run.

Source: Reuters (Image of a customer tapping his card at an Amazon Go store)

The invisible check-out shop works by relying on cameras and sensors to track what shoppers remove from the shelves, and what they put back. Cash registers and checkout lines become redundant as customers are billed after leaving using a credit card on file.

To start shopping, customers must scan an Amazon Go smartphone app (see image above) and pass through a gated turnstile. If someone passes through the gates with an item, his or her associated account is charged. If a shopper puts an item back on the shelf, Amazon removes it from his or her virtual cart.

While the technology above has reported some glitch during the launch, we see this as yet another shred of evidence that the IoT is changing – making it easier and more convenient – the way people purchase goods.

Already, we have seen how a refrigerator can remind you that you are low on milk to being able to order food for pick-up from your car. In our view, the important drivers driving new payment methods are the number of available devices, partnerships in the ecosystem, convenience associated with the use of the device and the security.

In many ways, we see the proliferation of connected devices driving new and innovative commerce experiences, helping to drive engagement and accelerate the shift towards electronic payments.

Source: Company data

We have seen increasing instances where payments become so seamless that they are invisible in the background and the platform approach becomes even more important. Such is the case with Amazon's Alexa where the marketplace is at the fingertips (or voice) of the user, where the voice recognition ability of the device is matched with the stored credentials to make a purchase.

Connected devices growth accelerating

According to research firm Gartner's estimates, there were 6.4 billion connected devices in 2016, up 30% on a year-on-year ("**y-y**") basis, and they expect the number of devices to grow to 20.8 billion by 2020. We are already seeing competition heat up with Google launching their own speakers, "Google Home" late last year to compete in this market. By tapping on the suite of different services available to Google, Google Home can perform a wide variety of services like reminding the user about an appointment that is on Google calendar. This is yet another evidence in our view, of how connected devices that have over-lapping services can increase customer loyalty to the device.

Connected devices are fast becoming inter-twined with the lives of individuals. The high broadband penetration rate in developed countries will facilitate the increased usage of connected devices.

The payment networks, namely Visa and Mastercard, have placed themselves firmly at the centre of securing and enabling payment capabilities for connected devices by partnering with several large device manufacturers and cloud providers. As a result, we believe that networks remain well-positioned to take advantage of the growth in connected devices.

We see this trend as an important game-changer in the way payments are going to be made in the future. With connected devices and invisible check-outs, this potentially reduces the brand awareness of customers of the payments network. Whereas previously, whether in online or offline digital commerce, a customer checkout experience is strongly associated with entering payment information at the point-of-sale or during the checkout process (for example, pulling out a credit card or entering payment information online). However, with the potential rise of connected and contextual commerce, after the initial set-up of a preferred payment vehicle, the check-out process becomes seamless, with the device remembering and authorising a transaction with that preferred vehicle. For instance, when we enter our credit card information for the Uber app, we tend to utilise the same credit card for payment of our hailed rides. This potentially increases the stickiness of the card or the network of the selected card.

Payment networks vie for slice of IoT pie

We see the different payment providers all competing for a slice of the IoT pie. Visa, Mastercard, Amazon and Paypal are examples of companies who already have a foot in the IoT space.

Launched in 2013, Visa Ready is a partnership-based program that helps IoT providers embed secure payments into the connected devices. The company has partnered with Coin, Accenture, and Samsung to name a few. These partners act as subject matter experts on the payments side and provide technical support for integration.

In February last year, in a first of a kind collaboration, Visa and IBM are teaming up to bring secure payment experiences through the IoT. Using a combination of Visa's global payments capabilities and IBM's proven cognitive capabilities with Watson IoT Platform, businesses can now quickly introduce secure payment experiences throughout the IoT using the combination of

Visa's global payments capabilities and IBM's proven cognitive capabilities with Watson IoT Platform.

This collaboration will combine IBM's industry leading IoT technologies with Visa's payment platform. This collaboration is expected to bring benefits to both companies as IBM's customers will gain instant access to Visa's Token Services via IBM's Watson IoT Platform and can immediately infuse secure, easy to use digital payment capabilities across the entire product lines. As a result, IBM and Visa are enabling commerce to take place on virtually any kind of connected device.

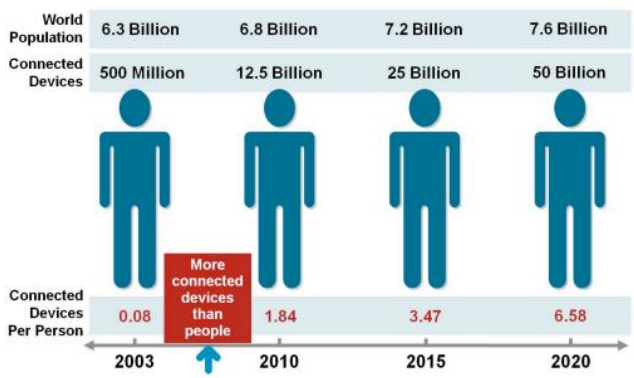
Meanwhile, MasterCard also announced their own secure payments with a multitude of devices in October 2015. The Commerce for Every Device by utilising its digital enablement programs alongside technology partners NXP Semiconductors and Qualcomm to secure payments on a multitude of devices. The program aims to launch new programs that can turn any consumer gadget, accessory or wearables into a payment device. This program has since seen tremendous success. In January 2016, Samsung announced its Family Hub refrigerator in the US with the Groceries by the MasterCard app that allows grocery items to be purchased directly using a built-in tablet. The app integrates with FreshDirect and ShopRite to provide debit and credit card payment acceptance for purchases from 250 stores in the Northeastern United States and has rolled out to make more grocery stores available through MasterCard's partnership with MyWebGrocer. In October 2016, MasterCard announced a partnership with Fit Pay that enables manufacturers like Wearatec to enable MasterCard card payments on their wearable devices through its digital enablement programs. Through the partnership, Fit Pay expects to enable 9 million wearable devices in 2018.

Amazon is currently involved in this space through the Amazon Echo product with its virtual assistant Alexa (discussed earlier), which allows users to connect to their Amazon account, which usually already has their payment information and a preferred card stored in it, to purchase consumer goods on Amazon.com. Amazon Echo has also secured partnerships with partners like Uber, Lyft, and Domino's, allowing the user to hail a ride with their device and order a pizza.

In our view, the potential for Amazon and Google to expand on the partnerships available currently on their IoT device is massive, and we can look forward to seeing increased functionalities in the two devices in the future.

PayPal Commerce is currently a beta product that enables a merchant to sell a product agnostic of the channel, in which it is first encountered by the customer – emails, blogs, apps, social media, and more. The service allows merchants to place a buy button within any of these interface and the merchant can even sync inventory with these buy buttons to ensure the product remains available. Braintree also enables buyable pins on Pinterest in 2015, which embeds payment functionality without entering payment information every time the customer selects an item to purchase. In addition, through a Braintree (acquired by PayPal in 2013 for US$800 million in cash, is a full-stack payment platform that merchants in the United States, Canada, Australia, Europe, Singapore, Hong Kong, Malaysia and New Zealand can utilise to begin accepting payments on their apps or webpages) integration, PayPal now allows users to order an Uber ride through Facebook's messenger platform.

According to a research done by Cisco, the number of devices connected to the internet will increase by 25 billion by 2020 to 50 billion. The number of connected devices per person is also expected to increase from 3.47 in 2015 to 6.58 per person in 2020.



Source: Cisco

Within this space, we believe Visa, MasterCard, and PayPal are best positioned to capitalise on the long-term secular trend towards digital given their early initiatives, scalable platforms and the significant breadth of users and brand recognition.

3. Acceleration in demand for P2P as players compete for real-time payments pie

The third trend we see is the acceleration in demand for person-to-person ("**P2P**") payments. Even though P2P payments have been around for years, the lack of revenue generated from this means that there was a lack of interest in this activity. However, lately, we have seen a surge in interest in P2P payments from diverse players from internet, mobile companies (Facebook, Google and Apple), banks (JP Morgan), the payments company (VIsa, MasterCard, Square) and PayPal's Venmo.

Growing global business and consumer demand for secure transaction speed along with convenience has seen an increasing number of real-time payments system and infrastructure being rolled out to meet this need. Roughly 90% of the US$10 trillion estimated US real-time push payments market rely on cash, checks and ACH for money transfer according to PYMTS.com. We believe that the growing interest in P2P payments is fueled by three main reasons: (i) the interests by the aforementioned companies in gathering consumer data, (ii) attracting new customers; and (iii) to retain customers.

The current players in this space are PayPal's Venmo, Facebook messenger, Square Cash, SnapCash, Google Wallet, Dwolla, and clearXchange's Zelle. As mentioned earlier, although the P2P payment services are generally offered as a free service, this is usually offered by many of these players as a customer acquisition tool and to increase the stickiness of their offerings.

In addition to P2P payments, the players are also expanding on the wider addressable market: real time payments. Visa Direct recently partnered with Early Warnings's clearXchange and MasterCard acquired VocaLink, a provider of the underlying technology powering the majority of electronic payments in the UK. In addition, Visa Direct also partnered with Fiserv with its Popmoney P2P offering as well as Ingo Money and Square. They are also collaborating with each other, PayPal and Venmo for instance has leveraged the Visa Direct network to enable real-time payments.

We are excited about the developments in this space, and see the interest in this space likely solving much of the friction for both the sender and the receiver in the shared economy in areas such as insurance payments, healthcare reimbursements, merchant settlements and etc.

In our view, the collective goal of these payments player would be to create added value for consumers along with a whole suite of other services. As Cecilia Frew, Senior Vice President of Visa Direct alluded to, "…Visa's goal is to remove the friction associated with a variety of P2P and business-to-person ("**B2P**") use cases to improve the speed, convenience and security of sending and receiving payments. P2P, while important, is only the tip of that very large US$10 trillion funds disbursement iceberg."

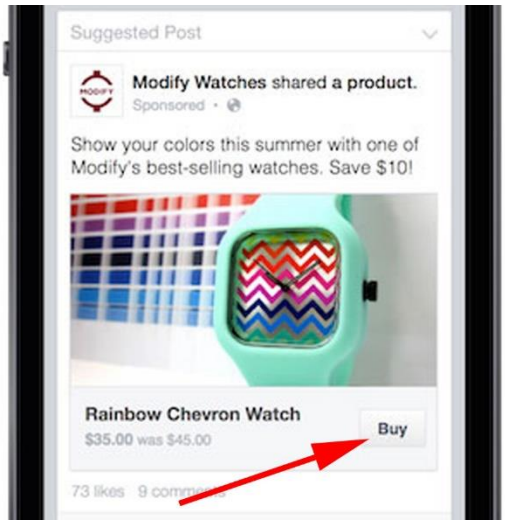
From our observation, Venmo is currently the best positioned in this space given their first mover-advantage. PayPal had purchased Braintree, which gave PayPal the Venmo asset. Venmo is Braintree's mobile P2P application which provides instant money transfers. In 2016, Venmo processed US$17.6 billion in transactions, up from US$7.5 billion in 2015. Venmo monetises this by providing the P2P money transfer for free but is in the process of charging for the consumer-to-business ("**C2B**") payment segment by charging the merchant.

> *"…Visa's goal is to remove the friction associated with a variety of P2P and business-to-person ("**B2P**") use cases to improve the speed, convenience and security of sending and receiving payments."*
>
> ~Cecilia Frew, SVP of Visa Direct

While most would recognise Facebook as an online social media and social networking company, whose main revenue source is advertising, they have actually been involved in P2P for quite some time but with limited success. In March 2015 however, Facebook introduced a new P2P money transfer service and hired former head of PayPal, David Marcus as their Vice President of Messaging. The P2P service allows for convenient transfer of funds using Facebook's Messenger app supporting iOS, Android and desktop, and is available for use with a MasterCard/Visa debit card which lowers the base rate fees . Facebook will lose money on the offering as there is no cost to the users, however the intention is to acquire and retain customers.

The company is better positioned being at the center of frequent customer transactions and given a large highly-engaged user base of about 1.3 billion from their different platforms – Facebook Messenger, Instagram and WhatsApp – collectively.

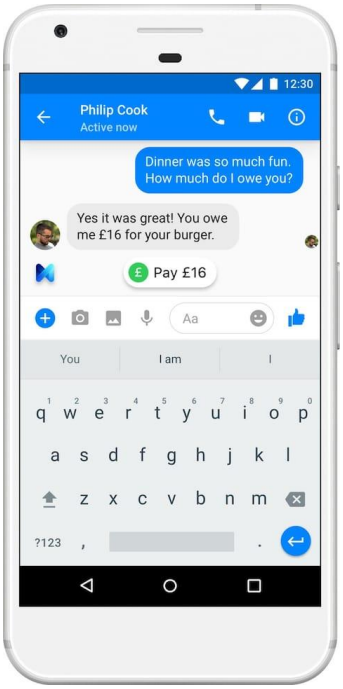
Previously, Facebook had already tested a "Buy" button that let users purchase items straight from Facebook ads and pages without leaving the social network.



Source: Business Insider

In November last year, Facebook launched a P2P payments service in the UK – one of the biggest markets for P2P services -, extending the social network's reach into financial services and stealing a march on Apple. The US tech giant's Messenger app will allow users to instantly send funds back and forth on their mobile phones or computers with no fees after linking their accounts to their debit cards. The move follows a similar launch in the US in March 2015, as mentioned before. As David Marcus, head of Facebook Messenger alluded to, the company was not making any money from payments, and actually incurs a small cost attached to every transaction. The purpose of the move therefore, is "to increase the utility of Messenger".

Apple though, is set to launch their own version of P2P payments service on the iPhone through its iMessage app. The service is set to launch in the US soon and is likely to come to the UK and other countries afterwards.



Source: The Telegraph

According to PYMTS.com, roughly 25% of US adult smartphone users send and receive money via their electronic devices at least monthly in 2016, this is expected to increase by 32% in 2017 and a further 25% in 2018. The growth highlights the immense potential in this market, and we expect to see existing players like American Express and even Microsoft compete more aggressively given the growing pie. As the market becomes more mature, we think the payments provider will focus on building greater partnerships to increase and retain the number of customers they currently have.

Competitive dynamics

According to data from PYMTS.com, the market scale of China's third party mobile payments more than doubled in 2016 reaching US$5.5 trillion. In addition, mobile commerce is expected to grow at a 22% CAGR through 2020 to US$242 billion in volume. While Apple Pay and PayPal are the most widely adopted mobile payment services, Alipay and WeChat is dominating in China. The size of the China market means that even though Alipay and WeChat is mainly operating in China currently, they each have more than 500 million consumers subscribed on their platform. PayPal in comparison has 200 million and Pay with Amazon has 33 million.

Tencent's Weixin Pay fast closing in on once-dominant Alipay

According to Analysys, Alipay has the highest market share in the Chinese mobile payments apps at 54% in 2016 vs. TenPay at 37%.

Alipay, which Alibaba launched in 2004 as a PayPal-type service to facilitate payments on its Taobao ecommerce platform, has long dominated China's mobile payments. Tencent, best known for its gaming and social media platform WeChat with 890m users, entered the arena a decade after Alibaba and for a year the two staged an expensive battle to attract customers.

The dominance of the Taobao and T-Mall ecommerce platforms helped propel Alipay at the beginning as the default digital wallet in China. However, as WeChat begin to increase the offerings in their ecosystem, the Chinese began to spend more time in the app, resulting in the dramatic rise of the TenPay's market share.

Despite the intense battle taking place between the two players now, Ant Financial Services Group, the owner of Alipay still saw its pre-tax profit more than tripled from 2016 to 13.2 billion yuan in 2017, according to Alibaba's latest filings. According to a report by Reuters, Ant Financial is planning to raise up to US$5 billion in fresh equity that could value the online payments giant at more than US$100 billion.

China Union Pay's monopoly status keeps it well-positioned for the future

China Union Pay – founded in 2002 - is the only domestic bank card organisation in China. China Union Pay has benefitted from the Chinese government's restriction of foreign players in the market, allowing them to attain a monopoly status in China (excluding Macau and Hong Kong). According to The Nilson Report for card and mobile payment, China Union Pay accounted for 73% of purchase volumes for both debit and credit in the Asia-Pacific region, which is extremely substantial.

China Union Pay also has ambitions to grow their eCommerce presence. In 2010, they partnered with PayPal, enabling card members to use PayPal. The deal is a win-win for both parties as they benefited directly from more cross-border transactions.

Visa and Mastercard benefit from size and scale

We see little distinction between Visa and Mastercard in almost all areas of the payments network. More importantly, we think the high level of security and reliability associated with their brand allow them to capture almost every segment in the payments ecosystem globally.

Square's growth trajectory higher than traditional payment providers

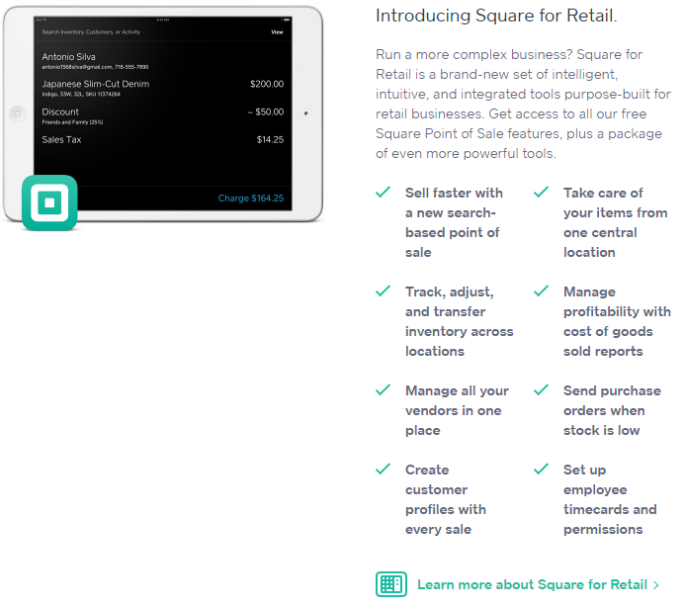
Square, Inc. which is listed on the New York Stock Exchange, is a financial services, merchant services aggregator, and mobile payment company. Their value proposition lies in helping millions of sellers run their business – from secure credit card processing to point of sale solutions.

Grow your business

Square Point of Sale is the point of sale that takes care of digital receipts, inventory, and sales reports and provides valuable analytics and feedback—so you can focus on your customers.

Source: Company data

Square's competitive advantage in our view, lie in their significant presence amongst small merchants.



Source: Company data

The company has solid brand recognition amongst their peers, a rapidly growing customer base and an expanding customer solutions service. Their innovative products, simplified pricing, and end-to-end commerce platform has seen them grow their customer base at an extremely rapid pace. Based on their recent results announcement, the company has guided for 20-25% of long-term revenue growth, significantly higher than some of the more established players. They also expect to turn profitable driven by operating leverage.

Disruptors: Blockchain Technology

See our earlier report on Cryptocurrency for a more detailed explanation on the subject.

Blockchain is a secure and unalterable transaction ledger database which is shared across all the parties in a decentralised manner. This means that there is no need for a central authority like a government to verify the transfer of money.

The often touted benefits of blockchain technology is the low costs of transferring money – though this is still fairly restricted at the moment -, and high transparency. More importantly, the transactions with blockchain do not require the parties in a transaction to involve an intermediary that reconciles information, approves the transactions and store transaction information locally, which is what typically happens in a transaction today leading to high costs, low processing speeds, and even incorrect payment handling, resulting in potential for fraud and disputes.

After using the technology to empower Bitcoin, the technology is now being tested for different use cases ranging from, but not limited to, private payment networks, cross-border remittance, digital identification and currency transfers.

While the technology is still at it's early stages, they are already being tested by central banks, financial institutions, governments and startups.

Incumbents getting into the act

Ripple - a real-time gross settlement system, currency exchange and remittance network – has been adopted by 15 of the top 50 banks globally. Some of their bank partners include Standard Chartered and UBS. They have also partnered with American Express and SBI Remit.

Ripple's technology allows banks connect to its Interledger Protocol through Ripple Connect, enabling real-time, efficient, and secure settlement of cross-border payments.

Visa announced in 2016 a preview of B2B Connect, a new platform that Visa is developing to give financial institutions a simple, fast and secure way to process B2B payments globally.

Visa is working together with Chain – an enterprise-grade blockchain infrastructure that enables organisations to build better financial services from the ground up – to build Visa B2B Connect using Chain Core.

Building on this technology, Visa is developing a new near real-time transaction system designed for the exchange of high-value international payments between participating banks on behalf of their corporate clients. Managed by Visa end-to-end, Visa B2B Connect will facilitate a consistent process to manage settlement through Visa's standard practices.

With Visa B2B Connect, Visa aims to significantly improve the way international B2B payments are made today by offering clear costs, improved delivery time and visibility into the transaction process – ultimately reducing the investment and resources required by banks and their corporate clients to send and receive business payments.

Visa B2B Connect, which Visa plans to pilot in 2017, is designed to improve B2B payments by providing a system that is:

Predictable and transparent: Banks and their corporate clients receive near real-time notification and finality of payment;

Secure: Signed and cryptographically linked transactions are designed to ensure an immutable system of record;

Trusted: All parties in the network are known participants on a permissioned private blockchain architecture that is operated by Visa.

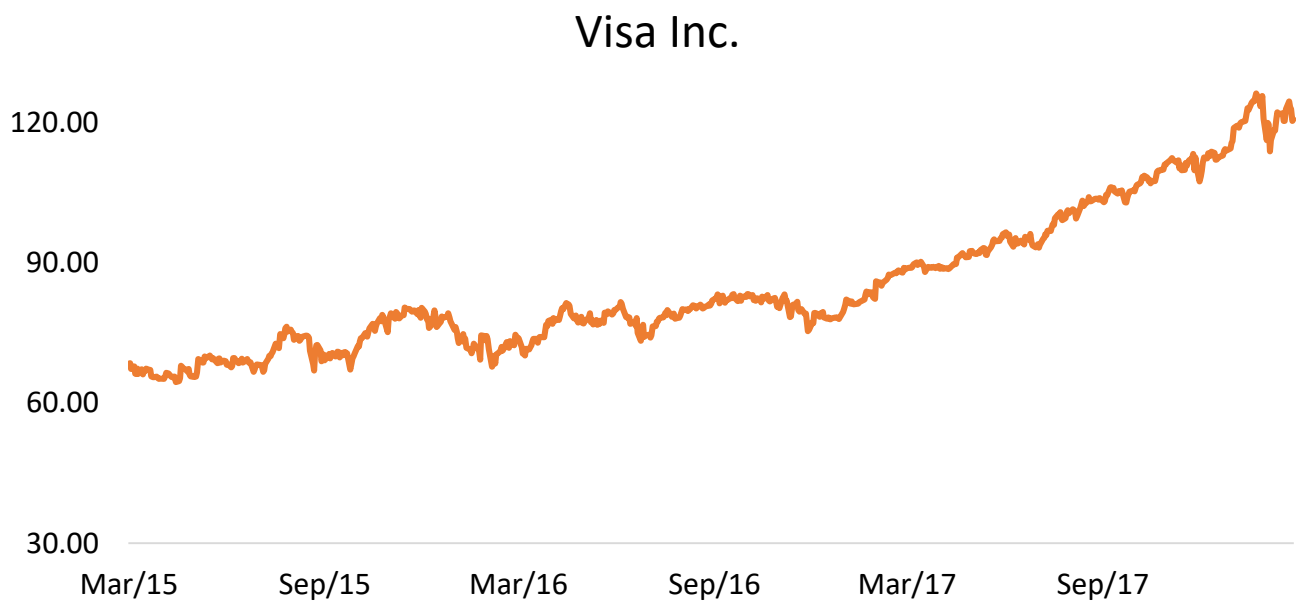
The central banks are also exploring the use of blockchain applications for digital currencies. The People's Bank of China for instance, completed a trial run testing a digital currency in mid-December of 2016. In January last year, the Reserve Bank of India released its first white paper on blockchain discussing trade related applications. This was followed by Banque de France, which opened an innovation lab in February last year, testing ideas with blockchain startups.

Conclusion

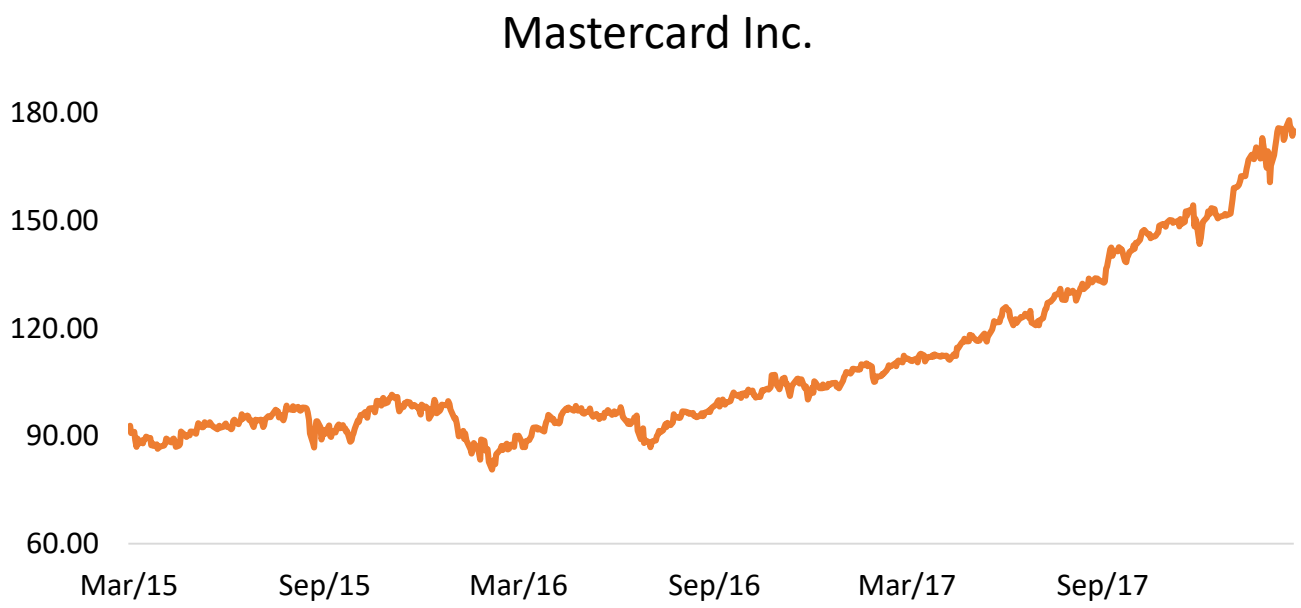
As the payments landscape continues to evolve, the focus will shift towards adding value around the payments system. We think the best way for this to happen, is through the extraction of data which drives analytics to offer targeted offers which will entice the consumer. We also see a burst of interesting developments looking to disrupt the payments eco-system, and think this space should continue to be closely watched.

Price Charts

Visa Inc. (V US)
Price: US$120.77 (as at 2 Mar 2018)

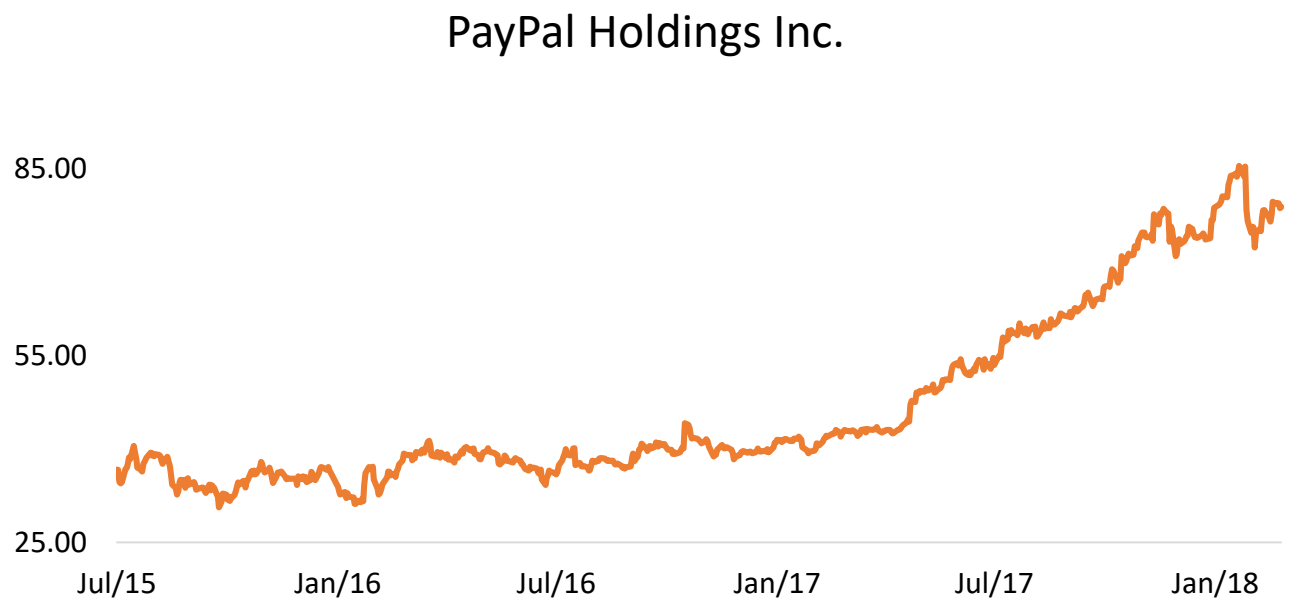


Mastercard Inc. (MA US)
Price: US$175.02 (as at 2 Mar 2018)



Price Charts

PayPal Holdings Inc (PYPL US)
Price: US$78.87 (as at 2 Mar 2018)

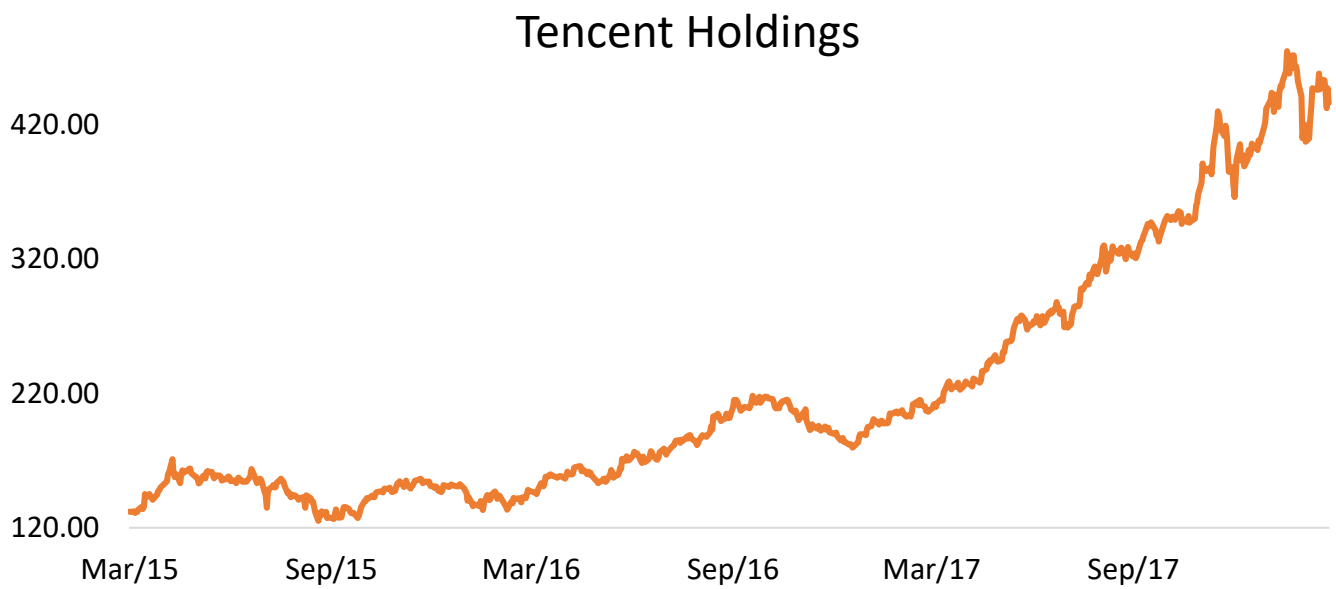


Alibaba (BABA US)
Price: US$179.76 (as at 2 Mar 2018)

Price Charts

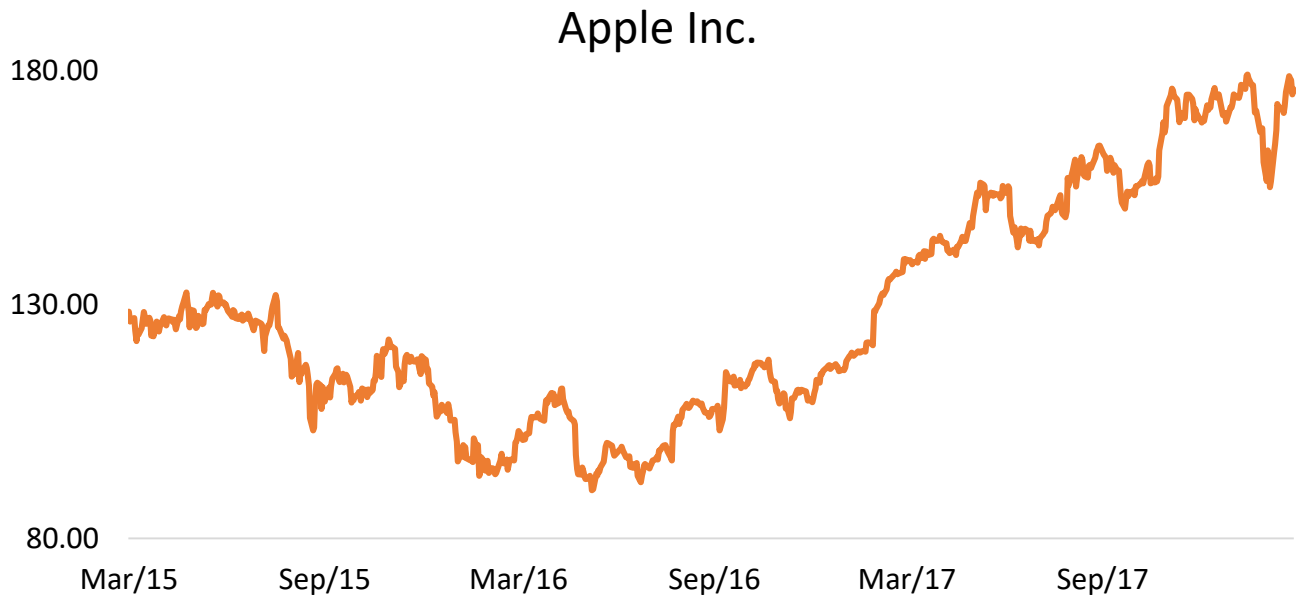
Amazon.com Inc (AMZN US)
Price: US$1,500.25 (as at 2 Mar 2018)

Tencent Holdings (0700.HK)
Price: HK$425.00 (as at 5 Mar 2018)

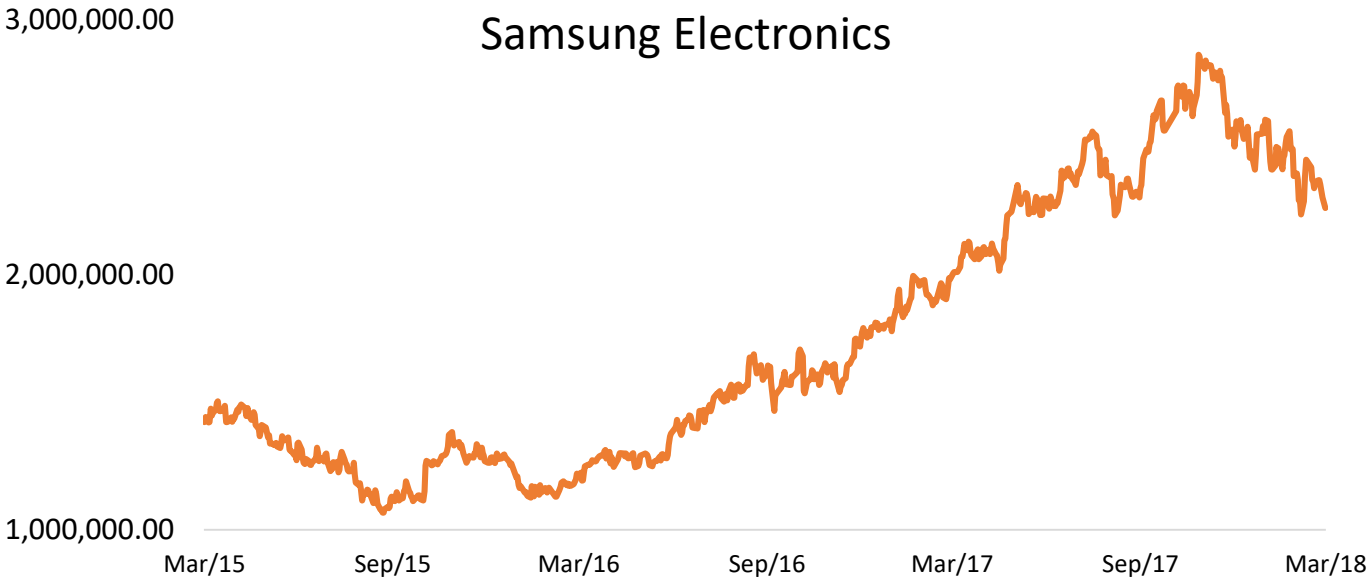


Price Charts

Apple Inc (AAPL US)
Price: US$176.21 (as at 2 Mar 2018)



Samsung Electronics (005930.KS)
Price: KRW 2,260,000 (as at 5 Mar 2018)



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