

PayPal (\$49.30)

- PayPal has morphed into a more innovative and proactive organization
 - Mobile commerce growth is underestimated by the market
 - Braintree acquisition (2013) was a company maker
 - Venmo monetisation not in estimates
- Market is overly concerned about threat of Apple Pay and Android Pay.
- 5% FCF yield on 2018 ests, with mid teens growth.
 - However, stock could easily remain cheap on FCF for a long time, until the Apple/Google threat situation becomes clearer.

May 8, 2017

Sensible Upside: \$79 (+61%)
Sensible Downside: \$40 (-20%)

SUMMARY: PAYPAL IS HITTING A SWEET-SPOT FOR GROWTH



- **When PayPal was part of eBay it got lazy and stopped innovating**, nearly becoming irrelevant as new competition arrived from Apple, Google, Stripe, Square etc.

-
- Now that PayPal is a standalone entity, it has enabled significant change.
 - **We are in the early stages of PayPal's journey to become more relevant and scale more efficiently.**
-

- **Key components in this reinvigoration:**

1. **One Touch / Mobile**

- One Touch (be it from Apple, Amazon, Google or PayPal) **removes a lot of friction in the payment stage**
- **Mobile based payment solutions will drive merchant acquisition** as commerce shifts to mobile. Longer term, the point of sale and mobile check out will have merged.

2. **Braintree**

- **Braintree is the best thing in PayPal.** It is the reason to get excited about PayPal's competitive position.

3. **Company culture**

- PayPal now talks about user engagement, just like FB, ATVI etc. **PayPal has remembered it's a technology company.**
- **Fintech is competing to get to scale. PayPal has scale and is competing for engagement.**

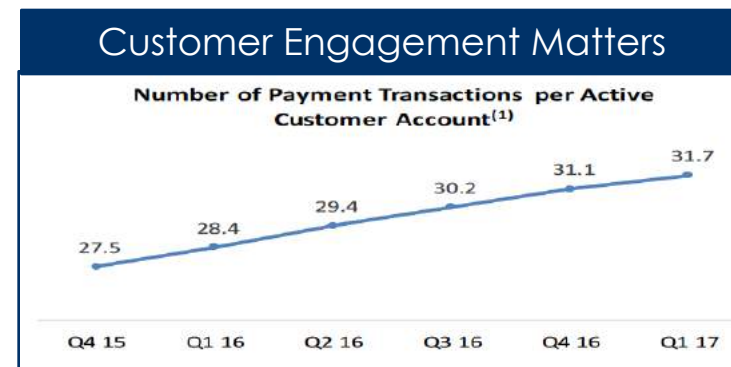
4. **Venmo**

- "sharing economy" based on peer-to-peer services = PayPal has an edge.
- New captive user base that is currently un-monetised.

WHAT DOES PAYPAL DO?



- PayPal is a lot of things: a digital wallet, a merchant acquirer, a network, a SAAS company.
- **PayPal has branched out via acquisition into other parts of the payment ecosystem.**
 - The most notable brands are Braintree (payment gateway) and Venmo (P2P payments)



Source: PayPal

- PayPal is the **only U.S. player** that operates on both the consumer and merchant side of the payment ecosystem.
 - **This enables PayPal to rollout new functions, and get adoption very rapidly**, in a fragmented industry.
 - 203M customers and 16M merchant accounts

Geographic Split of Revenues

U.S.	53%
Rest of World	35%
UK	12%

- PayPal's key **value proposition for customers**
 - **Safety** of information (card number/address)
 - **Protection** from identity theft
 - **Ease of use**
- PayPal's key **value proposition for merchants**
 - Ease of account opening and low cost
 - Integrated mobile ecosystem including Braintree, One-Touch, mobile wallet, credit etc.

Net Take Rate vs Growth vs Costs

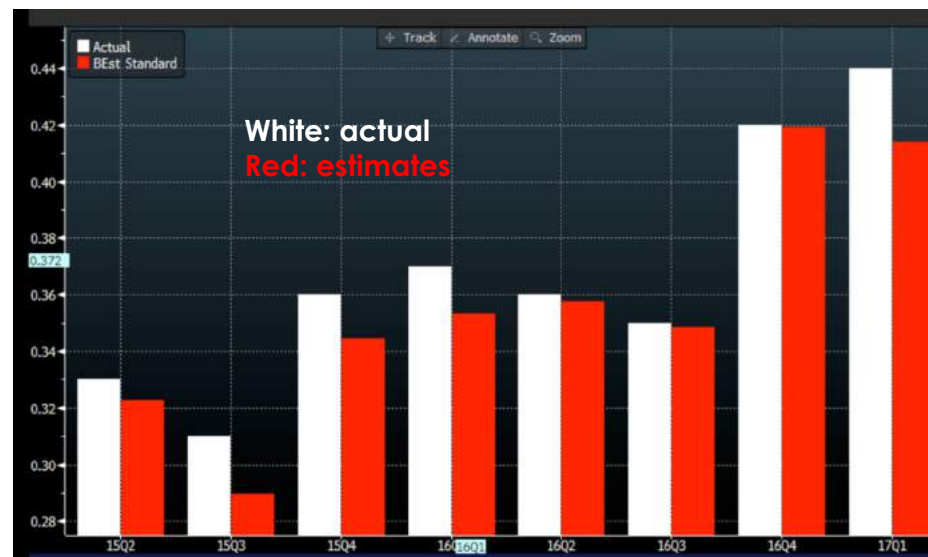
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017
TPV (bn)	81	86	87	99	99
Mobile Payment volume	21	24	26	32	32
Mobile PV Growth	56%	56%	56%	52%	51%
Mobile as % of TPV	26%	28%	30%	32%	32%
Active Accounts	184	188	192	197	203
Transactions per account	28.4	29.4	30.2	31.1	31.7
Transaction Take Rate (calculated)	2.76%	2.69%	2.65%	2.63%	2.62%
Transaction Cost	0.93%	0.94%	0.95%	0.96%	0.99%
Transaction Losses	0.31%	0.30%	0.31%	0.31%	0.30%
Net Take Rate (Transaction take - transaction costs+losses)	1.52%	1.46%	1.39%	1.36%	1.32%
Net Take Rate (Excluding Venmo)	1.63%	1.59%	1.55%	1.52%	1.51%
Total Company expenses (not related to transactions)	1,130	1,214	1,218	1,260	1,257
AS % of revs	44%	46%	46%	42%	42%
Operating Income	407	371	348	460	431

Q1 2017 WAS A “PAY ATTENTION” QUARTER



Q1 2017 results mattered. It was confirmation of the growth momentum at PayPal

- PayPal has beaten analyst estimates every quarter over the last 8 quarters, **but Q1 had the largest positive surprise (6.3%) leading to 2017 guidance increase**, driving the stock up 7% on the day.
- **Strong growth momentum** in key metrics.
 - **Revenue up 19%** cc and **25% TPV growth** were much above expectation
 - **Transaction take rate decline was below expectations**; giving higher margins
 - Venmo monetization discussion was a positive
 - Commitment to return cash in buybacks
- **Active accounts accelerated** to 6m from around 4m
- US growth also surprised up 27% after recent deceleration
- **Mobile TPV grew 51% yoy** and accounted for 32% of total TPV. This remains the key driver of growth
- **Venmo** volume was up 114% Y/Y to \$6.8B



Source: Bloomberg

WHAT IS THE MARKET MISSING?



- **Mobile commerce growth is underestimated by the market**
 - We believe last year's 55% mobile revenue growth of PayPal is beginning of many years of high growth. Mobile is now 32% of PayPal revenues.
 - Mobile is still only 20% of ecommerce and is on track to increase to 50% over 5 years
 - Mobile commerce is opening opportunities in off-line, especially as Venmo is introduced to merchants
- **PayPal's solid position in mobile is not well understood**
 - PayPal's Braintree has >50% market share as merchant acquirer and payment processor
 - OneTouch has been largely responsible for mobile commerce growth with 70% share
 - PayPal's unique customer and merchant relationships has allowed them to rapidly upgrade an **ecosystem that is sticky and will not be easy to disrupt.**
- **PayPal has morphed into a more innovative and proactive organization**
 - Attractive acquisitions in mobile space especially Braintree and Venmo, which are hitting their stride.
 - Deals with Visa, MasterCard, Android, Banks etc., make a lot of sense and reduce risk
- **Apple Pay and Android Pay will take market share but there is still growth for PayPal**
 - PayPal wallet and OneTouch share will likely drop as Apple Pay and Android Pay acquire critical mass, but Braintree will be a beneficiary of wallet growth
 - We believe **PayPal is in a sweet spot of capturing mobile commerce growth for at least 2-3 years, with limited competition**

- **Apple Pay and Android Pay**

- There is little doubt that over next 5-10 years both **Apple and Google are likely to become major players** in the payment market
- It is not the current offering that worries us so much, but **what will happen as Apple and Google disrupt the existing off-line system better than PayPal.**
 - Although there has been **slow adoption of off-line payments using mobile** devices, it will eventually catch-on.
 - In Europe, it may take longer as it takes on contact-less cards, but in US it could happen more quickly replacing the chip and pin system.
- **Mobile is truly blurring the offline and online worlds.**
 - **If Apple and Google become major off-line players, it is only a matter of time until they impact PayPal's mobile online business.**

- **Net Margin headwind**

- **The Net Take Margin has declined** from 1.63% to 1.51% in Q1 2017. (of TPV)
- Most of the decline is a mix effect from **higher funding cost at Braintree** but also there is the risk of reduced use of bank funding for PayPal.
- The take rate has remained relatively stable, but there is a risk that take rates come under pressure with increased competition.

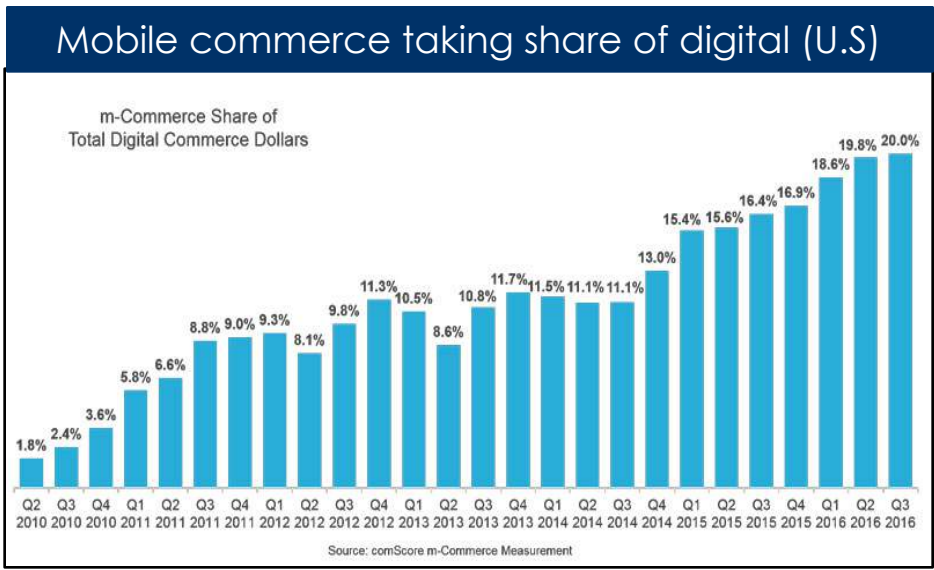
- **Venmo monetization**

- There are hopes of a successful monetization of Venmo through merchant transactions by Venmo subscribers.
- This is by no means guaranteed. Unlikely to have proof of success until 2018 at the earliest.

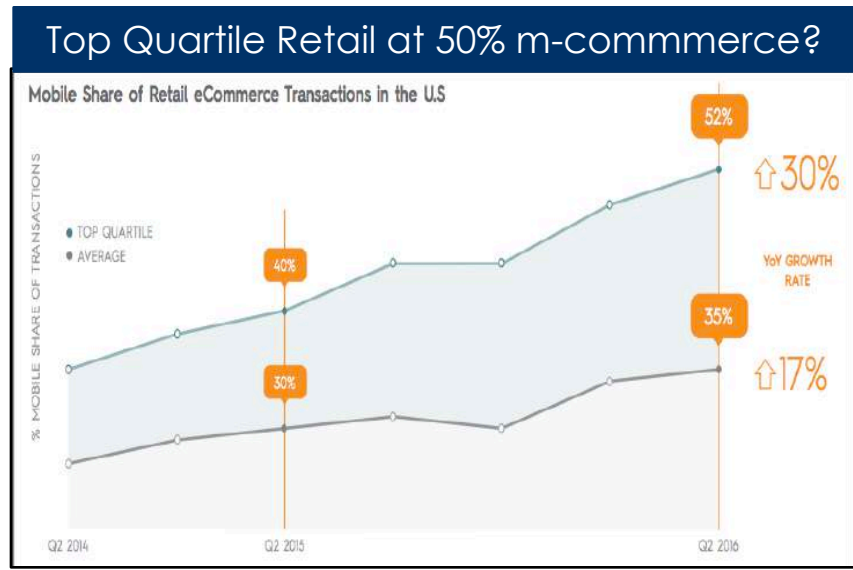
MOBILE IS TAKING SHARE OF COMMERCE



- With One Touch and Braintree PayPal has bet on mobile commerce winning share at point of sale.
- Mobile commerce driving PayPal growth.
 - **M-commerce growth running at approx. 45% YoY**
 - M-commerce consistently taking share of e-commerce
- Given the trends, 20 years from now, the point of sale and mobile check out will have merged giving PayPal a very strong position in the payment ecosystem.



Source: comScore



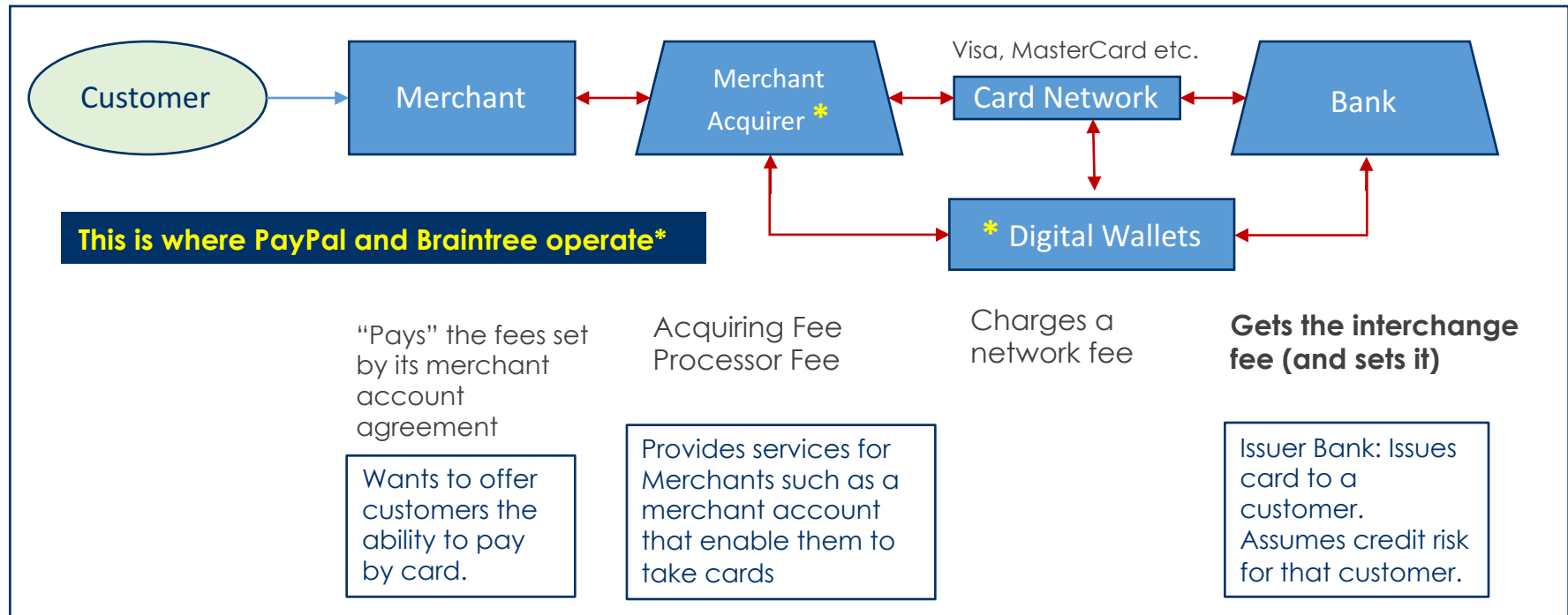
Source: Criteo

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SIMPLIFIED VIEW OF THE PAYMENTS INDUSTRY

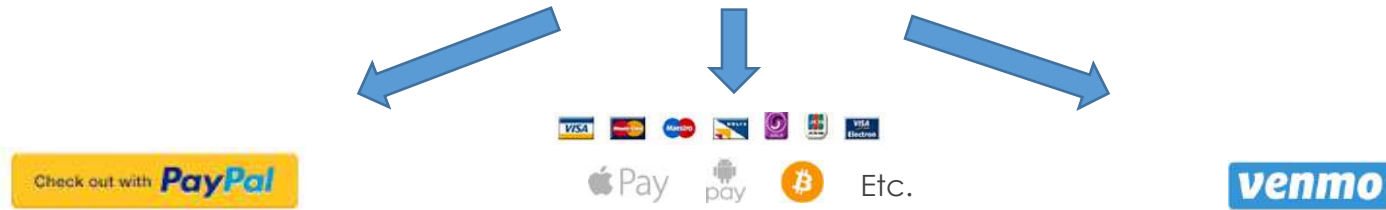


- Usually, competition leads to lower prices
- In the case of interchange fees, the opposite occurs. Since **issuing banks benefit from interchange fees**, card schemes compete for the issuing banks by offering *higher* interchange fees.
- **Cardholders are encouraged through rewards offered by their bank to use cards that generate higher fees for the bank.**
- These fees are a cost for retailers which increase the price of their products. Interchange fees are therefore, indirectly, paid by consumers.

WHERE DOES PAYPAL MONETISE IN THE PAYMENT ECOSYSTEM?



- Consumer adds stuff to a basket and checks out
 - **Choice of “buy” buttons to click**



<u>PayPal</u>	<u>Braintree</u>	<u>Venmo</u>
<ul style="list-style-type: none"> • Collects payment only if the consumer decides to pay with PayPal. • One click payment option? • Fees*: <ul style="list-style-type: none"> • UK: 1.9% to 2.9% +20p • U.S.: 2.9% +30c • ROW: 1.4% to 2.5% +25c 	<ul style="list-style-type: none"> • Collects payment if ANY payment is processed on a Braintree customer's site. • Fees*: <ul style="list-style-type: none"> • Europe: 1.9% to 2.9% +20p • U.S.: 2.9% +30c • Larger accounts can negotiate volume discounts • Interchange plus pricing in Europe available. 	<ul style="list-style-type: none"> • Currently free for consumer to consumer(P2P) payments and not monetised. • Identical business model to PayPal, just a different brand and user base. • Square cash charges 2.75% (U.S.) to merchants
<p>PayPal the technology platform = scalable cost advantage</p> <ul style="list-style-type: none"> • Two sided network (merchants, customers) • Takes risk, mitigates risk, (guarantees the transaction/ Protection) transfers money from customer to merchant <ul style="list-style-type: none"> • Adds shared functionality. E.g. One Touch 		

*roughly speaking, as we assume fees are negotiable for larger accounts

Culture Change

- To collaboration and Innovation

PayPal has undergone two transitions, one within its developer base, the other on the infrastructure

Infrastructure

- Transitioned data center infrastructure into a private cloud using OpenStack.
- The result is that PayPal can execute product cycles **"seven times faster than a year ago,"** CTO
- Re-architected in a way that **enables PayPal to deploy software code globally all at one time.**
 - Re-launched mobile application across the globe in 145 markets across both iOS and Android.

Developer Reorg

- **Transitioned** from waterfall **to an agile development methodology**
- Development platform "lends itself to building fast and highly scalable network applications." When those apps are based on the Node.js environment, **they use 40% fewer lines of code than required in previous applications and require 20% of the time to develop.**
- Moved to **SAAS architecture. Enabling faster product releases.**

• Equals faster innovation

- New: In Q4 2016, *"we did 20,000 plus code deployments in Q4. We [now] have developers deploying code multiple times a day."* v.s. the old quarterly software release cycle.
- **"The investments we have made in our platform architecture now allow us to enable Venmo as a payment method for our PayPal merchants without any additional integration work on their end, mirroring the approach we used to successfully roll out One Touch."**

- **Embraced partnership deals:**
 - Ceased competing with Visa and MasterCard
 - Partnerships with Facebook, Google, América Móvil, Vodafone, AliExpress etc.
- **Embraced mobile via M&A**
 - **Braintree and Venmo** are market leaders – Acquired in 2013
 - Mobile payment volume is growing at ~50% for Paypal
- **Innovated - Launched a compelling product**
 - **PayPal One Touch**
 - Yes it was late relative to Amazon, but still ahead of everyone else.

- PayPal has given itself a lease of life via acquisition.
 - The company first **bought Braintree, which owned Venmo. This kick started the journey.**

September 2013	Braintree + Venmo	<ul style="list-style-type: none"> • The best acquisition PayPal ever made. Company defining.
December 2013	StackMob	<ul style="list-style-type: none"> • Developer stack for app builders to tie their software to cloud-based backend systems. “They’ve proven the ability to build really flexible and solid platforms,” [PayPal CTO]. Helped in re-platforming
February 2015	Paydiant	<ul style="list-style-type: none"> • White label platform enabling merchants to integrate mobile payments and loyalty into their own branded mobile app. Added functions.
February 2015	XOOM	<ul style="list-style-type: none"> • Xoom is a digital money transfer company focused on international remittances. • A way of building international client base in a different brand. Potentially increases customer engagement. Mobile centric.
May 2015	CyActive	<ul style="list-style-type: none"> • “We’ve made the strategic decision to expand our security efforts by establishing a security center in Israel.”
August 2015	Modest	<ul style="list-style-type: none"> • Play on contextual commerce. Integrating it into the PayPal platform, especially Braintree.
February 2017	TIO Networks	<ul style="list-style-type: none"> • TIO Networks is a cloud-based multi-channel bill payment processor delivering access to secure bill pay via kiosk, walk-in, mobile, and web solutions. This will help the company reach the “underserved” chunk of North Americans who are living paycheck-to-paycheck, some who even lack bank accounts. “There’s a chance to create a bridge for those users into the digital world,” Bill Ready, PayPal COO told TechCrunch.



Source: PayPal

- **The Visa deal was the big one**, a real sign that the PayPal culture had changed.

Visa CEO MAY 2016:

Anyone that's trying to take your customers and disintermediate you is not a friend. And so, that's the reality of the way we viewed PayPal historically.... We'd love to figure out a different model with them where it's consumer choice first whether or not disintermediating. If we can figure that out with them, great. We'll think of them more as a partner. They need to do things differently in order to do that. The other door is where we go full steam and compete with them in ways that people have never seen before. Because you've never seen us go target PayPal in the marketplace in any meaningful way.

- **Visa Deal**

- The main thing that **Visa gets** from the deal:
 - Visa cards will be easier to enrol and choose in the PayPal wallet, **ACH will be de-emphasized in favour of Visa debit cards**. This keeps Visa from being disintermediated in the transaction.
 - N.B. Consumers don't particularly like ACH as they are reluctant to give a merchant (or PayPal) their bank account numbers
- **PayPal Benefits:**
 - PayPal will use Visa's tokens and join VDEP **to be accepted in-store at Visa contactless locations** like Android Pay.
 - PayPal will **qualify for volume-based incentives from Visa, and greater certainty in fees.**
 - Removes a potential competitive threat.

The key issue is what impact any change in funding costs will have over the longer term.

- **Mastercard Deal** (similar to Visa deal)

- Mastercard will be presented as a clear and equal payment option within the PayPal Wallet,
- **PayPal gets volume incentives** and, as a result of the commitments made under this agreement, will no longer be subject to the digital wallet operator fee

U.S. Funding cost comparison for PayPal				
	Cost of Transaction			
	Credit	Debit	ACH	Paypal
Interchange Fees	2%	0.40%	0%	0%
Network Fees / Assessments	0.05%	0.05%		
Acquirer / Processor Fees	0.1% to 0.5%	0.1% to 0.5%		
Transaction Fee			10c to 50c	



Funding mix shift over the long term

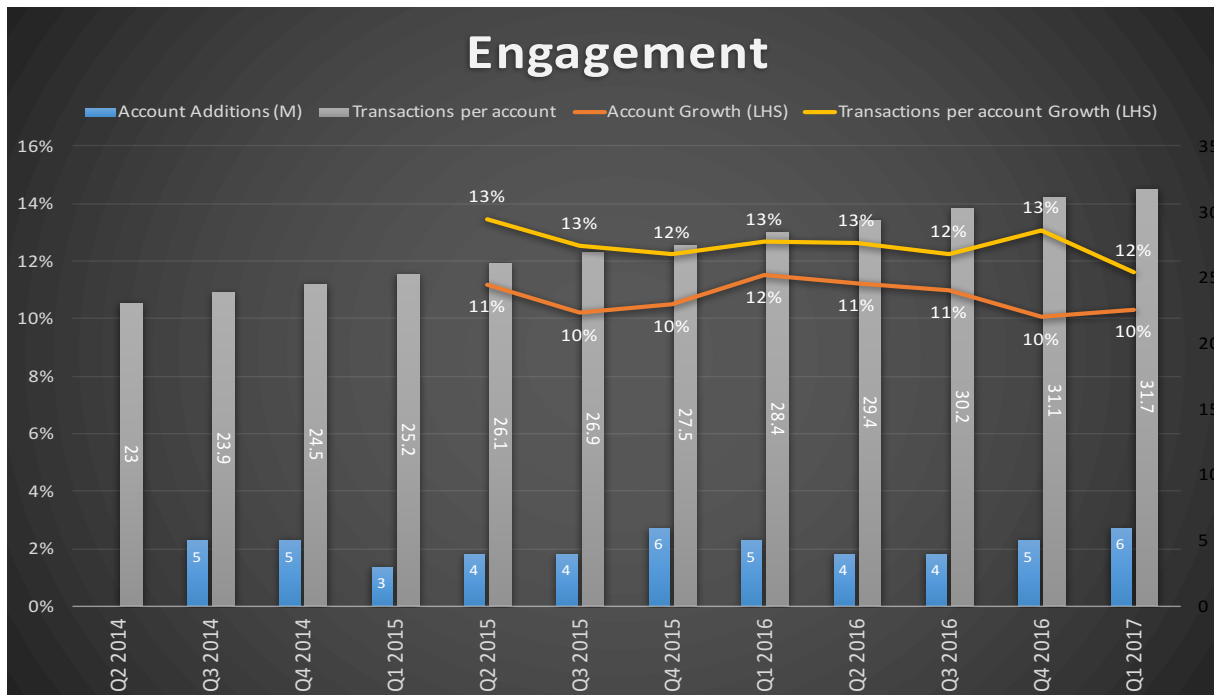
- **AliExpress**
 - PayPal becomes a payment option. **Will drive cross border traffic** (more profitable, +1% take rate on volume).
- **Wells Fargo**
 - Customers will be able to make contactless mobile payments in-store with Wells Fargo merchants.
 - I.e. outsourcing contactless penetration on the consumer side to mobile phones.
- **Google**
 - People in the U.S. can link their PayPal account to use with Android Pay.
 - Will be accepted as a way to pay both in-app and at retailers that accept Android Pay at the point of sale.
 - Economics: essentially a pass-through for Master/Visa credit/debit cards and **Paypal will only make money when a PayPal balance is used.**
- **Intuit**
 - Integration with QuickBooks Payments
 - ***“We found that merchants who offered PayPal payments in their QuickBooks invoices were paid two-times faster than it took to get paid without PayPal”*** (in Australia)
 - Launched in Australia in Nov. 2015. Now available in the U.S. and Australia.
- **One of the larger goals with these initiatives is to help PayPal establish more traction at point-of-sale.**

- **Active customer accounts**

- Ended 2016 with 197 million active customer accounts.
- **Added 5.4 million new accounts in Q4, highest organic total in two years.**
- Q1 2017: added >6m new accounts. **Continued organic acceleration**

- **Number of transactions**

- Consistently increasing in the 12-13% range. (YoY)
- *“benefited from a notable shift in consumer behaviour”* Q4 2016



Source: PayPal

Growth Drivers

- PayPal is in a sweet-spot for growth for the next few years

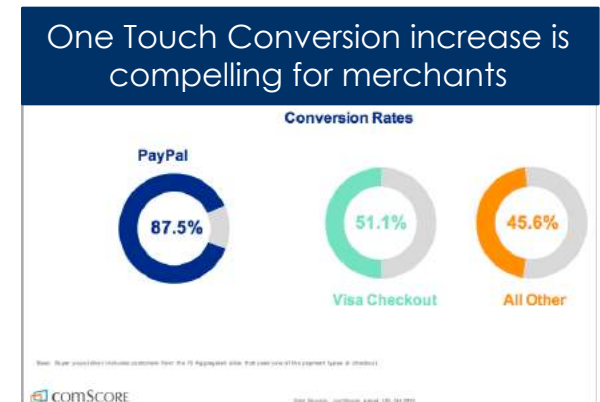
- We are in the **early stages of PayPal's journey to become more relevant and scale more efficiently.**
- Key components in this reinvigoration:
 1. **One Touch / Mobile**
 - **Removes a lot of friction** in the payment stage, increases conversion
 - **Mobile based payment solutions will drive merchant acquisition** as commerce shifts to mobile. 20 years from now, the point of sale and mobile check out will have merged.
 - PayPal has failed in the in-store environment. However **as mobile and off-line commerce merge, paypal may just needs to dominate in mobile.**
 2. **Braintree**
 - **Braintree is the best thing in PayPal.** It is the reason to get excited about PayPal's competitive position.
 3. **Venmo**
 - "sharing economy" based on peer-to-peer services = PayPal has an edge.
 - **New captive user base that is currently un-monetised.**
 4. **Company culture**
 - PayPal now talks about user engagement, just like FB, ATVI etc. **PayPal has remembered it's a technology company.**
 - PayPal has embraced consumer choice. Customers have become more demanding, and banks are not technology companies. (hence why fintech gets a 10x PE premium just for using the word)
 - **Fintech is competing to get to scale. PayPal has scale and is competing for engagement.**

1. ONE TOUCH: THE CONVERSION PROBLEM



- **Cart abandonment is the major issue for mobile commerce.**
- U.S. adults spent 59% of their time on mobile and 41% on desktop, but just 15% of their dollars on mobile and 85% of their dollars on desktop
 - 30% of carts result in an order on a desktop
 - **19% of carts result in an order on smartphones.** (Adobe Data)
- A large portion of cart abandonments are simply a natural consequence of how users browse e-commerce sites.
- The number one and two **reasons for abandoning a cart?**
 - Extra shipping costs
 - **Necessary to create an account**

- **With One Touch you can make a purchase in seconds**
 - No user ID and password required
 - No entering of payment credentials
 - No entering of shipping and billing address
- **PayPal's One-Touch solution has been a major driver of growth for PayPal in mobile**
- According to a comScore study released in April 2016, PayPal's **One Touch converts 87.5% of all customers.** The closest competitor converted 51%



Source: comScore

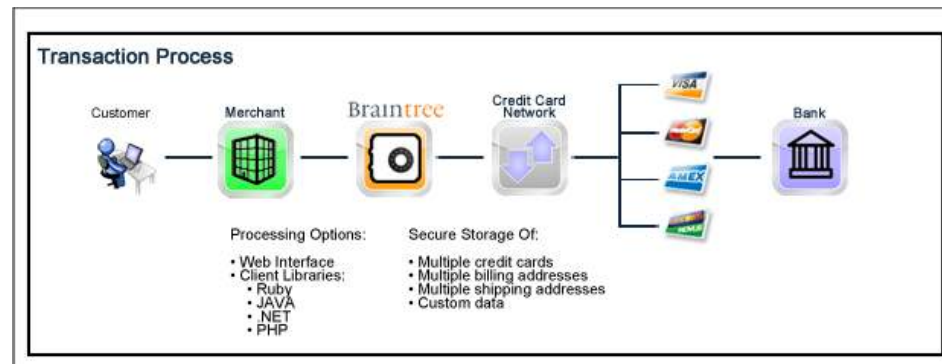
- **PayPal almost owns the fast growing mobile checkout experience right now with One-Touch**
 - Number of merchants that accept MasterPass and Visa Checkout is approx 300,000 each, versus 5m merchants for PayPal.
- **Removing Friction:**
 - Normal checkout takes approx. 1 minute on laptop or desktop, two minutes plus on mobile.
 - This drops to **roughly 10 seconds with no typing required on One Touch.**
 - One Touch: PYPL sees on **average a 5% increase in the level of customer engagement**
- The reason PYPL got such **quick merchant acceptance** is that merchants had to do no work to be able to accept a One Touch transaction.
 - Strong PayPal brand also helped
 - **Indicative of the unique relationship PYPL has with both its customers and merchants**
- **This has enabled PayPal to have >30% of transactions on mobile, while the industry is at 10-15%**

- **Major adoption of One-Touch took place as the market was desperately looking for a product similar to 1-Click** available on Amazon, which was patent protected (U.S.) until 2017.
 - Until now, the only way for other companies to deploy such technology was to license it from Amazon. Apple has paid an undisclosed sum to use a version of the technology in its iOS app store for app purchases.
- July 2010: Mobile Express Checkout launched (two-click payment on a mobile device)
- **August 2014: One touch for mobile launched**
- August 2015: PayPal expanded One Touch to 13 new markets worldwide, including many European countries along with Australia.
- **May 2016**
 - One-Touch was **accepted in 50%** of the Internet Retailer 500 (75% accept PayPal)
 - More than **22 million consumers** using the product.
 - **1 million** merchants signed up.
 - In **144 merchant and 200-plus** consumer markets around the world
- **April 2017**
 - **75% of the Internet Retail 100** offer One Touch checkout solution on their mobile and desktop shopping
 - **53 million consumers**
 - Up 140% yoy and up from 40m at the end of 2016.
 - **Over 5 million merchants** accept One Touch
 - 5x last year. Expected to grow strongly in 2017.
- **One Touch has been a key driver of PayPal mobile payment volumes +51% YoY** and now 32% of PYPL transaction volume comes via mobile devices.

2. BRAINTREE: WHAT IS IT?



- Dealing with payments is notoriously complex and time-consuming for Internet companies.
- **Braintree provides a compelling all-in-one solution** for companies that need to process consumer payments as part of their online business.
 - Essentially it **is outsourcing what happens when the “buy button” is clicked.**



Source: Braintree

- **Braintree is a payment gateway**
 - **Ready-made payment user interface**
 - **Braintree provides you with a merchant account**
 - Enabling instant checkout in almost any environment is a key part of its appeal.
 - Braintree **deals with up to 90% of PCI compliance**
 - **It is global** (44 countries), so small companies can sell abroad.
 - Integrating with a payment gateway is a developer's job. **Braintree is renowned for having one of the easiest integrations** for developers.
- As businesses become **more complex, Braintree becomes a more compelling** solution.
 - Relatively few lines of code to integrate.
 - **Flexible, scalable**
 - Reviews suggest Braintree's customer support team is highly responsive

In August 2011 eBay, realising they were missing the mobile trend, acquired Zong for \$240 million – it was focused on mobile payments. **Zong founder David Marcus became head of mobile, and then president of PayPal.** (Now runs messaging at FB) Marcus **led PayPal into the mobile era,** launching PayPal Here (credit card reader attached to a mobile phone). Under his leadership PayPal acquired Braintree and launched One Touch on mobile. He left in August 2014

- **Braintree and stripe are the two leaders in providing an software/ all in one solution for online payments.**
 - Both companies have positioned themselves as go-to gateways for Internet-based payments
 - They are competing to acquire merchants to generate transaction volume.
 - What's more important? The number of websites you are on, or which sites you are on?
 - **Braintree customers: Uber, Air BnB, StubHub, Opentable, Hotel Tonight, FB messenger are. (among many others)**
 - Enabled: **Pinterest Buyable Pins, Skyscanner and Yelp** for Yelp Cash Back.
 - Interestingly **Task Rabbit switched to Braintree marketplace solution from their internal system** (you would assume a core competency given it's a marketplace).
- **Braintree is growing very fast (~100% YoY),** although recent data has not been released.
 - Braintree announced that it is on track to process \$50 billion in total authorized transaction volume in 2015. (September 2015)
 - Braintree did \$23 billion in total payment volume in 2014.
 - in 2013, Braintree processed \$12 billion. (when bought)
 - Authorized Payment Volume includes all forms of payment, including gateway; **a material portion of Braintree's authorized payment volume is not included in PayPal's TPV.** (Braintree Blog, Sept 2015)

- **Collects payment if ANY payment is processed** on a Braintree customer's site.
- Pricing is similar to PayPal, although it would be nice to know the split of customer size.
 - **Larger customers have lower pricing than the rates below, we just don't know how low.**
 - **Interchange plus pricing is available** for merchants in Europe. (why not in US?)
 - Probably as European Credit and debit interchange are capped and at similar levels.

U.S.	
2.9% + \$.30	
per transaction	
✓ No minimums	✓ Basic fraud protection
✓ No monthly fees	✓ Recurring billing
✓ No hidden costs	✓ Phone + email support

Europe	
1,9% + €0,30	
per transaction	
✓ No minimums	✓ Basic fraud protection
✓ No monthly fees	✓ Recurring billing
✓ No hidden costs	✓ Phone + email support

- A +1% fee applies to international transactions
- Chargeback Fees:
 - U.S.: A flat \$15 fee is assessed for chargebacks. Fees are returned for fully-refunded transactions.
 - Europe: A flat €30 fee is assessed for chargebacks. Processing fees are not returned for refunded transactions

MERCHANT ACCOUNTS

(THIS SEEMS LIKE A GOOD POINT TO HAVE A DISCUSSION ON THEM)



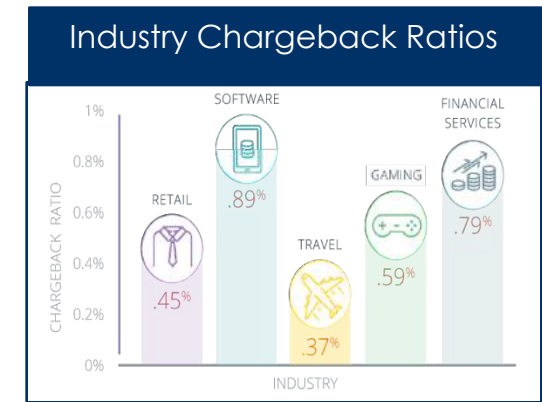
- **Merchants typically collect payment in advance of providing the product or service** as well as providing some sort of quality assurance (e.g. will be delivered, can be returned, etc.).
 - Therefore, **the risk born by a merchant account provider is similar to providing a line of credit.**
 - If a merchant sells something that they can't deliver, don't deliver, partially deliver, deliver poorly, or that is defective, **the merchant account provider is potentially on the hook for all the “chargebacks” and losses.** Margins are narrow in the payments industry so this risk is screened and monitored very closely.
- **It is a highly competitive space:** there is no shortage of companies willing to offer merchant accounts.
- **There are two types of merchant service providers: processors and resellers (known as ISOs)**
 1. Processors can actually process a transaction. To be a processor, a company must have the technical capability to receive transaction data from a merchant via a telephone line or the internet and then communicate with the appropriate financial institutions to approve or decline transactions. Processors must also be able to settle completed transactions through financial institutions in order to deposit funds into the merchant's bank account. The processing industry is highly concentrated with the top five processors having over 70% of all transaction volume. Wells Fargo, for example, is an ISO of First Data
 2. **Processors primarily work through ISOs to acquire and maintain their merchant base.** A processor's business model is really one of economies of scale. They're volume shops. They essentially outsource the sales function to ISOs
- **Braintree is an ISO**, there is a processor behind the scenes.
 - **ISOs offer all of the products and services that processors do** (because they are reselling) but processors can't always offer the same products and services as ISOs. This is because ISOs can resell for multiple processors and can develop their own technologies or aggregate solutions from other providers.
 - **ISOs have largely been the most successful creators of value-added services** while attempts by processors have usually been pretty clunky.
 - Banks entered into the merchant services business because it was a natural fit with their product and service offerings. It's a way to increase revenue per customer. They are not great innovators..

MERCHANT ACCOUNTS: CHARGEBACKS



- **Chargebacks (the thing that gets merchants hot and bothered)**

- Customer have protection from fraud via the card issuer.
- **In accepting card payments merchants are taking risk.** If fraud occurs chargebacks happen which upset merchants. (Money is taken from them, which they can then contest)
- But **what can really impact a merchant is when Merchant Account Provider freezes accounts, because they think they (the account provider) may be on the hook for some losses.**
 - A 1% sales transaction count is usually the maximum allowed for direct merchant accounts before accounts get frozen.
 - Higher than this and a business is considered a risky merchant.



Source: chargeback.com

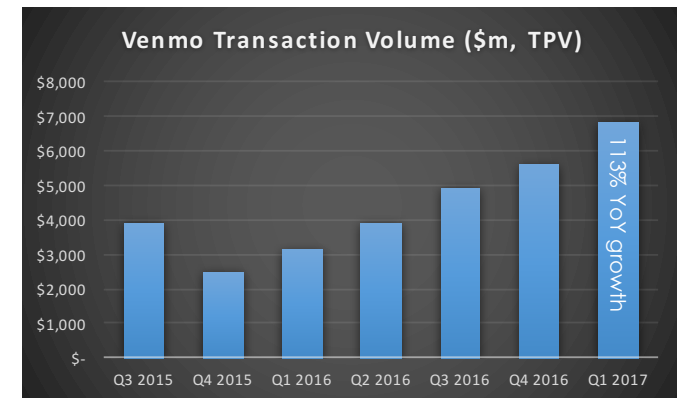
- Larger businesses can setup multiple Merchant Accounts, then setup a gateway that automatically routes sales across those Merchant Accounts

- Often this is because of different branded websites that have different entities owning them under a larger owner.
 - Running one account through multiple websites is a major violation of most terms and conditions
- **Processing volume spikes can cause problems for many merchant account providers.** Multiple merchant accounts + a gateway enables a load-balancing function.

3. VENMO: MOVING FROM P2P TO M-COMMERCE



- **Venmo is a peer to peer payment network:**
 - Enables digital payments through a mobile app within a social network of “known” friends. (Known matters due to NO protection)
 - **People use it because of the user interface / social aspect.**
 - Also because of the hassle with commercial banks transfers.
- **No fees for consumers**
 - Linking debit cards = free, bank transfers are free
 - Debit interchange will be a cost that Venmo has to eat right now to build the user base.
 - **Credit cards = 3%**



Source: PayPal

- **Monetisation starting now**
 - PayPal: **“We fully intend to rollout Pay with Venmo in a much broader basis in 2017 and we’ll see some impact in that. But really the big impact on that happens in 2018 and 2019.”**- Q1 2017 comments
 - Square is charging 2.75% per transaction for business accounts using Square Cash, so rates unlikely to be much different from other payment forms.
- Venmo as an option on Braintree platform is straight forward. This is one major advantage that Paypal as they roll out Venmo commercially.
- **Venmo is being investigated by the FTC** for unfair / misleading practices.
- Others are competing in P2P:
 - QuickPay (JPM), Square, also FIS has Zelle for P2P- a platform it is trying to sell to the banks. The problem is that the first mover captures the lions share of the market. And Venmo seems to be the lion.
 - QuickPay processed \$28 billion in 2016, and is growing 40% year over year. (vs Venmo at \$17.6bn and growth of >100%)

- Current run-rate of ~\$27bn a year in P2P
- Venmo probably has 20-30mn customers that are growing rapidly
 - There is likely to be some overlap with PayPal customers and hence may not be all unique additions
 - However **engagement with Venmo seems to be much higher than with PayPal.**
- **PayPal is rolling out “Pay with Venmo”** among its Braintree merchants and among select PayPal brand merchants during 2Q 2017.
 - **We expect fast adoption, very similar to the One-Touch roll-out**, because there is no extra cost to a merchant for allowing payment by Venmo but a broader customer base
 - Management **expects to deploy Venmo in millions of merchants by end of 2017.**
 - PayPal deployed One-Touch in 1mn merchants in first year and additional four million the next year.
 - If deployment is successful, assuming Venmo customers spend averages similar to PayPal customers, this could a one-time revenue increase of 10%+
 - **Longer term Venmo could potentially add 5-7% sustainable growth to the company revenues**
 - PayPal is likely to demand the standard 2.9% +30c take rate from US merchants,
- However, the funding cost will be only 20-30bps. Plus losses of 20bps. I.e. **the net margin will be ~0.6%-1% higher than regular PayPal transactions**, making it very attractive.

VENMO ROLL OUT



- Using the same model as the One-Touch roll out.
- Venmo is offering via Braintree the same OneTouch button for “Pay with Venmo”.
- **Currently limited to a few merchants on Braintree** meeting certain conditions:
 - Selling only over the web/mobile web
 - Selling only within the Venmo app
 - Facilitating peer-to-peer transactions between two Venmo users
 - Non-profit donations
- Because of the social side, it will “Generate exposure for your brand when **users share their purchases on the Venmo feed**”.
- “**Venmo disputes leverage many of the existing tools** and processes you're already familiar with as a Braintree and/or PayPal merchant”.
- **PayPal appears to be charging the standard Braintree pricing.**

The screenshot shows a mobile checkout interface. At the top, there is a purple header with a back arrow and the text "Checkout". Below the header, there is a section titled "Pay With" with a prominent blue button labeled "venmo". Underneath, there is a section titled "Or Enter Credit Card" with input fields for "Name on card", "Card number", and "MM / YY CVV". At the bottom, there is a "Summary" section showing "Total \$42".

Source: Braintree

- **P2P is how PayPal increases its user base and engagement.**
- Cash and checks have historically dominated the P2P ecosystem
- However, as smartphones become a primary computing device platforms like Venmo have enabled customers to turn away from cash and make those payments digitally.
- Over the next few years, although overall P2P spend will remain constant, **a shift to mobile payments from cash, checks and bank transfers, plus increased spending power from millennials will cause the mobile P2P industry to grow very rapidly.**
 - PayPal processed \$41 billion in P2P payments across its platforms in 2015, marking a 42% year-over-year (YoY) uptick.
 - Credit card ownership remains below 10% in much of Southeast Asia due to underdeveloped financial services and stringent requirements for credit approval. Non-card based transactions (e.g., bank transfers, cash on delivery, mobile money) are far more common in the emerging markets.
 - A new bot, PayPal's first, will allow peer-to-peer payments of up to \$10,000, according to Venture Beat.

- Braintree is a payment method for Facebook messenger:
 - **Facebook had been testing payments in Messenger – why is this very important.**
- There is huge growth in the popularity of chatbots.
 - They remain a fraction of the size of apps, however messaging is becoming a commerce platform. And **“bots” are the new apps.** (There are 30k+ bots on FB messenger now)
- Bots or chat bots use automated response / AI to solve problems / messaged questions.
 - Person has to use the bot – just like an app.
 - Therefore it is necessary to build an audience for a bot.
 - Today, success in news and weather bots are where we have got to.
 - **Facebook and Uber signed a deal to allow customers to book rides directly from the chat application. Perhaps this will take bots mainstream?**
- Now customers can buy on bots. I.e it is possible to integrate a buy button into the bot inside messenger.
 - This is important as it **materially changes the ecommerce process of buying.**
 - Previously you clicked on an advert and were taken to another site, where **conversion was a problem** – you probably would not even arrive at the product you wanted to buy. Then you had low conversion because payment experiences were very poor and you had to enter lots of info, and nobody wants to do that on a phone.
- **Facebook is key to chatbots as FB messenger and whatsapp = 80% of the market.**
 - The reason for Whatsapp missing from the deal is simple: there's not API to interact with, so bots are not yet officialy possible on whatsapp.
 - (FB has since said that it is working with all the major players in the industry including Stripe, PayPal, Braintree, Visa, MasterCard and American Express) **PayPal sees it differently: Facebook Messenger, for whom, as a launch partner, we are helping to power their in-message commerce.**

- **Xoom is a PayPal service that provides worldwide money transfers.**
- It allows consumers to send money, pay bills and reload mobile phones from the United States to 52 countries, including China, India, Guyana, Pakistan, Mexico, Brazil and the Philippines.
 - Global split families – sending money home from the US- can also pay for stuff. E.g. bills.
 - One of the quickest one and securest
 - Not the lowest rates.
- Digital's share of the global remittance industry is still fairly small at 6%, but growth is high.
 - Fourteen year-old Xoom makes more revenue from electronic channels than 75 year-old MoneyGram, the second-largest remittance company in the world.
- Launched the Xoom service within the PayPal mobile app in the U.S.

- **TIO Networks will enable adding bill payment**
 - Another service to drive engagement with consumers.
- Expect the transaction to close in the second half of 2017.
- TIO is a leading multichannel bill payment processor in North America and processed more than \$7 billion in bill payments in its fiscal 2016.
 - *The company's digital platform and physical network of agent locations make paying bills simpler, faster and more affordable, and importantly, gives consumers who may not have access to digital financial services, the ability to easily migrate cash into a digital network and as a result, benefit from the convenience and speed of digital bill payments. With its network of 10,000 supported billers, TIO will meaningfully expand our ability to offer digital financial services to tens of millions of underserved consumers.*

PayPal's value proposition

WHAT DOES PAYPAL DO FOR CONSUMERS?



- **This is a very important question.** All competitive threat analysis comes back to answering this question.
 - Our underlying belief is:
 - Customers do not care about payments – they care about getting what they want.
 - **To change payment habits, you need to add value in one form or another.** E.g. via ease of use, rewards, coupons, product information etc on top of the payment.

• So why do consumers choose to pay with PayPal?

1. Security benefit

- Initially, security was the big deal... when the internet was young.
- Perhaps it remains so? Concerns over security still rank in the top 2 for millennials..
- Especially as merchants keep losing their client lists to hackers.

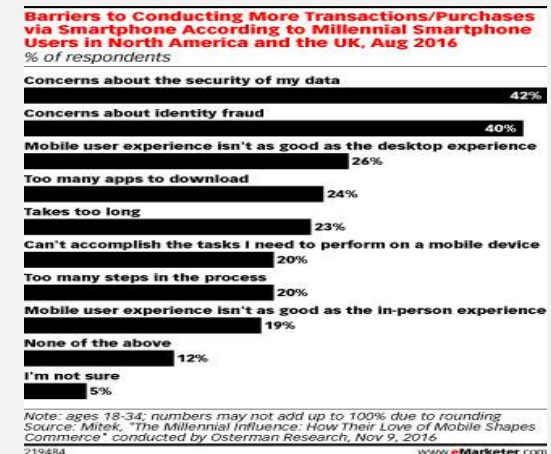
2. PayPal removes friction / Ease of Use

- Not entering payment details and delivery details: On mobile this becomes especially important.
- Onetouch is a good example
 - 40 million of our approximately 200 million users that are on One Touch (Q1 2017)
 - five million of our 15 million merchants accepting

3. Value added services benefit

- Rewards, loyalty cards, etc. (not sure I believe this)

4. It is free to consumers.



WHAT DOES PAYPAL DO FOR MERCHANTS?



- Ease of use and the ability to have transactions that otherwise wouldn't have happened
- **Network effect:**
 - Because PayPal owns both the merchant account and the consumer account it enables them to be slightly different from the industry.
 - It **allows PayPal to approve accounts instantly**. This reduces barriers to entry for merchants. Other merchant accounts can take weeks to set up.
 - **200m people use PayPal** or PayPal owned brands, as a merchant you want access to that pool of people. (geographic limitations aside)
- **Simplification:**
 - SMB, have historically been poorly served by existing commerce solutions, which require them to piece together hardware, software, and payments services from different vendors. **PayPal offers one integrated solution without having to open a merchant account.** (As does Square)
 - You also do not need to set up “complex” checkout systems. **PayPal gives you plug and play capability.**
- **Engagement:** Connectivity to consumers.
 - The merchant wants **deeper engagement / more loyalty from a consumer.**
 - PayPal can deliver more information about a consumer on each transaction.
 - Reduced cart abandonment via One Touch

- **When eBay and PayPal separated they signed a five year deal**
- 5 Year deal terms:
 - PayPal has to offer eBay the same rates it offers the competitors
 - **Ebay will channel 80% of its online gross merchandise sales via PayPal, as it does now, for the next five years**
 - PayPal and eBay have agreed to pay each other in the event that use of PayPal's services on eBay either surges or declines.
 - **PayPal agreed to continue charging eBay in the lowest twentieth percentile of rates**, which would mean that "PayPal rates for eBay merchants will remain largely consistent with today's pricing relationship".
- **Ebay revenues are declining as a % of PayPal revs.**
 - **Q1 2017: eBay volume ~15% of total.**
 - Q4 2016: eBay volume ~16% of total volume
 - In 2014 revenues generated from eBay was 29% of net revenues, down from 32% in 2013.
- But **how profitable is the ebay business?**
 - "Ebay's marketplace is responsible for more than 30 percent of PayPal's revenue and more than 50 percent of its profits" – Ebay comment when fighting Ichan.
 - Difficult to see how this is true given that in the **5year terms it suggests eBay has lower than average pricing.**
- **Ebay is already giving customers other payment options**
 - When a buyer enters checkout, a secure credit card checkout will automatically appear if eBay detects that the buyer doesn't already have a PayPal account or if they can't remember their password for a PayPal account.
 - If you don't have a PayPal account, you'll be automatically redirected to a secure page in eBay checkout where you can enter credit card information.
 - You will have the **option of saving your credit card details with PayPal by creating an account.**

TAKE RATE IS NOW STABLE (NOT THE PERCEIVED WISDOM)



- **Take rate:** PayPal's take rate is defined as the revenue generated by transactions divided by the Total Payment Value (TPV) of the transactions.
 - Take rate has been stable recently, although over time it has been drifting down because of mix effect.
 - **Mix Effect is mainly because of Venmo, which does not monetise. (yet has costs.)**

<u>PayPal Fees</u>
• UK: 1.9% to 2.9% +20p
• U.S.: 2.9% +30c
• ROW: 1.4% to 2.5% +25c

<u>Braintree Fees</u>
• Europe: 1.9% to 2.9% +20p
• U.S.: 2.9% +30c
• Larger accounts can negotiate volume discounts
• Interchange plus pricing in Europe available.

	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017
Transaction Take Rate	3.04%	2.94%	2.83%	2.77%	2.76%	2.69%	2.65%	2.63%	2.62%
Venmo (TPV volume)	1,260	No Data	3,900	2,500	3,190	3,900	4,900	5,600	6,800
Venmo as % of TPV)	2%		6%	3%	4%	5%	6%	6%	7%
Take rate ex Venmo	3.10%		3.00%	2.86%	2.87%	2.82%	2.80%	2.79%	2.81%

Take rate ex Venmo has been stable since Q4 2015

- **We assume it declines slightly over the long run** as Braintree has some very dominant internet customers such as Uber, FB and Air B&B.



- **Transaction cost/funding cost:**
 - **This is what PayPal or Braintree or Venmo has to pay for processing a card.** (to get money into the PayPal account)
 - **This has been trending UP**
 - Different rates in credit and debit and in different geographies.

	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017
Transaction Take Rate	3.04%	2.94%	2.83%	2.77%	2.76%	2.69%	2.65%	2.63%	2.62%
Transaction Cost	0.91%	0.95%	0.93%	0.92%	0.93%	0.94%	0.95%	0.96%	0.99%
Transaction and loan losses as % TPV	0.28%	0.28%	0.29%	0.30%	0.31%	0.30%	0.31%	0.31%	0.30%

- **Why has this been trending up and where does it settle out?**
 - Deal with Visa means that **there is a shift away from ACH** (Low cost) potentially towards credit (highest cost) as a funding mechanism for PayPal accounts.
 - **We do not know what volume discounts PayPal signed with Visa and MasterCard.**
 - We think it is likely to only impact new PayPal accounts, so there will be a gradual mix shift.
 - **We think it settles out around 1.05%-1.1% over many years.** (Best guesstimate method on next page)

WHERE DO FUNDING COSTS SETTLE OUT?



- **European funding costs are much lower than in the U.S.**
 - Regulatory caps on interchange mean that European cost on credit and debit cards are much lower than that in the US. On average the difference is almost 1%.

	Europe Cost of Transaction			
	Credit	Debit	Banks	Paypal
Interchange	0.30%	0.20%	0%	0%
Network Fees / Assessments	0.05%	0.05%		
Acquirer / Processor Fees	0.1% to 0.5%	0.1% to 0.5%		

	U.S. Cost of Transaction			
	Credit	Debit	ACH	Paypal
Interchange Fees	2%	0.40%	0%	0%
Network Fees / Assessments	0.05%	0.05%		
Acquirer / Processor Fees	0.1% to 0.5%	0.1% to 0.5%		
Transaction Fee			10c to 50c	

Area of contention

- Current Geographic Split:

Geographic Split of Revenues	
U.S.	53%
Rest of World	35%
UK	12%

- **We are assuming that Braintree will have a higher cost of funding than Paypal**
 - As Paypal has spent many years pushing clients towards ACH in the US and direct debit in the UK and Europe.
- In **Europe**, there is only a 10bps difference, so **credit will not meaningfully alter the status-quo.**
- Assuming a 70:30 split credit to debit in the US, and a similar geographic split (fair?) **Braintree would have a cost of funds of 1.12%.**
- **Assuming Braintree is 80% U.S.** it would have a **1.35% cost of funding.**

Between 1.1% and <1.35%

WHERE DO FUNDING COSTS SETTLE OUT?

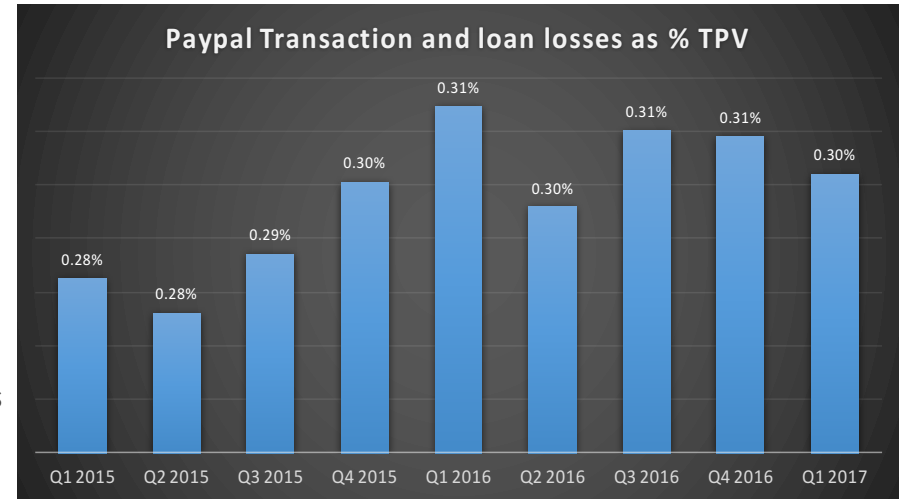


- Braintree growing at 100%
 - **Estimated cost of funding 1.1% to 1.35%**
- Venmo growing at >100%, with monetisation ramping in the next 2 years.
 - **Estimated cost of funding 0.5% to 0.6%.** (no credit funding)
 - Potentially much lower if Venmo has managed to push people towards bank funding.
- **Current PayPal cost of funding 1.00%.**
 - I.e. assuming both continue to grow at similar rates cost of funding should not rise significantly

RISK ASSESSMENT: IS IT IMPORTANT TO UNDERSTAND?



- It potentially impacts PayPal margins and the competitive dynamics in the industry. So, yes it is important. However, as it has been so consistent at PayPal it is rarely discussed.
- **Lower fraud = lower costs**
 - As stated before, there is no shortage of companies offering merchant accounts.
 - Therefore, **PayPal will have a sustainable margin advantage if it has lower fraud costs than the industry.** (Fraud estimated to be 70% of adverse transaction costs for the industry by Nilson)
- 60% of Transaction and loan losses are to do with transaction (broken out in annual reports).
- **I.e. A consistent 18bps of net cost for transaction losses.**
 - Today PayPal's "Transaction and loan losses" rate today is consistently 0.3% of TPV.



Some History:

- In PayPal's early days fraud threatened to close the business.
- Credit card chargebacks were soaring, criminals were using the company to launder money, and phishing attacks led to outright account theft. By the early 2000s, the fraud rate had soared above 120bps threatening to break the brittle relationships with credit card associations and taking away all profit for the business.
- **"Had PayPal not found a way to get fraud under control, it would have destroyed the company."** Eric Jackson, the company's former marketing director, wrote in his book *The PayPal Wars*. "Unchecked fraud would have put all of our legitimate customers and the very existence of our payments network at risk."



- *“We have to decide in a couple of hundred milliseconds whether this is a good person, [in which case] we will give him or her the best and the fastest and the most convenient experience. Or is it a potentially bad guy and we have to insert some friction?”*
- **Because PayPal (and Square)** on-boards individuals and merchants into the payment system with no upfront vetting or underwriting, their risk systems have to be better...
 - **Chargeback liability rests with the merchant in card not present transactions (CNP), not the Issuer.**
 - This is not the case in offline transactions that account for the 90% of the transaction volume of global issuers / processors
- Globally, **fraud losses for the payment industry were at an all time low in 2010 and have increased every year since.** (Nilsen data)
 - **Mobile and cross-border transactions experience 15% - 20% higher fraud** rates
 - Since 2015 the average number of monthly fraud attempts has spiked by 33%, with 46% getting past merchants' fraud mitigation efforts
 - **Card issuers and merchants incurred 72% and 28% of the losses, respectively**
 - Card issuer losses occur mainly at the point of sale from counterfeit cards
 - Merchant losses occur mainly on card-not- present (CNP) when customers buy online or pick up in a store.
- Dr. Hui Wang of PayPal:
 - PayPal has already ventured beyond fraud detection to address other areas of risk management, including “modern machine learning in the credit decision world,”
 - You need large quantities of data, which PayPal has.
 - PayPal is able to use location data from mobile devices and growing protection for the mobile operating environment to reduce risk to merchants and consumers.

- PayPal uses its credit offering to have better engagement from customers and merchants.
- PayPal is assessing an asset light strategy for the credit business:
 - “We’ve seen from people who are very interested in partnering with us, our portfolio is very attractive.”
- Huge base of users that don't use credit. The ability to expand that is very attractive to potential partners.
 - “would be a back half of 2017 event.”
- Currently they have a \$5.7bn book of receivables.
 - Charge ~20% interest
 - Loan portfolio growing at 29% YoY.

	December 31,	
	2016	2015
Percentage of merchant receivables with PRM scores > 610	67.7%	69.1%
Percentage of merchant receivables with PRM scores < 525	12.9%	10.7%
Percent of merchant receivables within original expected repayment period ⁽¹⁾	82.8%	87.2%
Percent of merchant receivables > 90 days outstanding ⁽¹⁾	7.5%	4.0%

	December 31,	
	2016	2015
Weighted average U.S. consumer FICO scores ⁽¹⁾	682	686
Percentage of loans receivable with FICO scores > 680 ⁽¹⁾	52.1%	53.6%
Percentage of loans receivable with FICO scores < 599 ⁽¹⁾	11.1%	9.4%
Percent of loans and interest receivable current	90.0%	90.1%
Percent of loans and interest receivable > 90 days ⁽³⁾	4.1%	3.9%
Net charge off rate ⁽²⁾	6.4%	5.9%

Financials and Valuation

MOBILE IS THE DRIVER OF GROWTH



	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017		2016	2017	2018	2019	2020	2021
Non-Mobile TPV	49	52	53	61	60	62	61	67	67		251	281	315	352	395	442
Non-Mobile Growth					21%	21%	15%	11%	12%		17%	12%	12%	12%	12%	12%
Mobile Payment volume	14	15	17	21	21	24	26	32	32		103	150	202	252	303	348
Mobile PV Growth					56%	56%	56%	52%	51%		55%	45%	35%	25%	20%	15%
Mobile as % of TPV	22%	23%	24%	26%	26%	28%	30%	32%	32%		29%	35%	39%	42%	43%	44%
TPV (bn)	63	67	70	82	81	86	87	99	99		354	431	517	605	698	790
Growth yoy (%)					28.7%	28.7%	24.9%	21.9%	22.5%		25.7%	21.6%	20.0%	17.1%	15.3%	13.3%

- **Mobile commerce** has been the growth engine in the past year. **We expect it to remain the key growth driver for PayPal**
 - We expect **One Touch penetration to increase and Braintree to benefit from a move towards mobile** transactions.
- We have assumed **TPV growth slows down from 20%+ to 13% in 2021** as mobile growth slows down with growing base.
 - The fade rate could be too conservative if mobile begins to take share of off-line.
 - We expect **non-mobile growth of around 12%**, down from 17% in 2016 inline with ecommerce growth ex Amazon.

HOW BIG CAN VENMO BECOME?



Venmo	2016	2017	2018	2019	2020	2021
Venmo P2P TPV (\$ m)	17,590	35,180	52,770	79,155	118,733	178,099
Venmo P2P TPV Growth %	130%	100%	50%	50%	50%	50%
Venmo as a % of Total TPV	5.0%	8.2%	10.2%	13.1%	17.0%	22.5%
Venmo Subscriber nos (m)	11.7	23.5	35.2	52.8	79.2	118.7
Venmo Purchase penetration	0.0%	3.0%	15.0%	40.0%	60.0%	80.0%
Venmo transaction/customer (\$)	-	1,800	1,800	1,800	1,800	1,800
Venmo merchant TPV (\$ m)	-	1,266	9,499	37,994	85,487	170,975
Venmo Revs (\$ m)	-	35	266	1,064	2,394	4,787
As a % of total Revenues	0.0%	0.3%	1.7%	5.5%	10.1%	16.1%

- Assuming P2P transaction per subscriber of around \$125/month, **we estimate 23.5m Venmo subscribers in 2017**. This is a key assumption which we cannot back up with data.
- Using a merchant transaction rate of \$1800/year/subscriber (same as PayPal) and **assuming 15% of Venmo P2P subscribers engage in merchant transactions in 2018**, we arrive at a potential Revenue generation of \$266m in 2018
- This could increase substantially in 5 years. **For 2021, we estimate 80% of P2P subscribers engage in merchant transactions.**
- This is clearly an optimistic case that assumes success in monetising Venmo. **There will be no evidence of success or failure until late 2017 at the very earliest.**

UPSIDE: RISING OPERATING MARGIN DRIVEN BY FIXED COST LEVERAGE



	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	2016	2017E	2018E	2019E	2020E	2021E
Total Revenues - incl Venmo (\$ m)	2,544	2,650	2,667	2,981	2,975	10,842	12,751	15,532	19,229	23,738	29,758
Growth y/y (%)	19%	15%	18%	17%	17%	17%	18%	22%	24%	23%	25%
Take Rate (%)	2.9%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Transaction cost (% of TPV)	0.93%	0.94%	0.95%	0.96%	0.99%	0.95%	1.00%	1.02%	1.05%	1.07%	1.10%
Transaction and loan losses (% of TPV)	0.31%	0.30%	0.31%	0.31%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
Net Take rate (% of TPV)	1.63%	1.59%	1.55%	1.52%	1.51%	1.58%	1.50%	1.48%	1.45%	1.43%	1.40%
Total Company expenses (not related to Venmo)	1,130	1,214	1,218	1,260	1,257	4,822	5,111	5,520	6,127	6,800	7,548
AS % of revs	44.4%	45.8%	45.7%	42.3%	42.3%	44.5%	40.1%	36.2%	33.7%	31.9%	30.2%
Adj. Non-GAAP Operating Margin						20.1%	20.8%	23.2%	24.0%	24.5%	24.5%

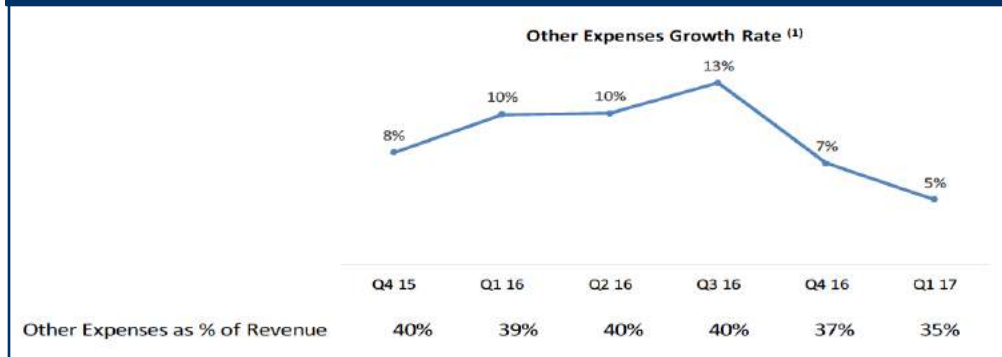
- We expect the **increasing transaction cost** because of lower bank funding mix shift (predominantly Braintree) to be more than offset by lower fixed cost growth.
- **2017: it was difficult to be vastly above the street...**
 - Estimate: **Transaction costs to increase to 1% of TMV**
 - **fixed costs to decline from 44.5% of revenue to 40.1%.**
- Net take rate has been declining as Braintree is lower net margin than PayPal. Venmo has made no revenue so far, but has added to funding costs.
- **2018: we are 15% higher than the street.**
 - Fixed cost leverage
 - Venmo monetisation begins

FIXED COST LEVERAGE – IS CRITICAL FOR OPERATING MARGINS INCREASE



- PayPal says it is gaining operating leverage as a result of **increasing expense discipline**

This is From the PayPal Quarterly Slides



- Other expenses include:
 - Customer support and operations
 - Sales and marketing
 - Product development
 - G&A and D&A

	Q4 2014	Q4 2015	Q4 2016	Q1 2017
	As a % of Revenues			
R & D Expenditures	9.2%	8.1%	7.2%	7.2%
Sales/Marketing/Advertising Expenses	11.8%	10.0%	8.5%	8.0%
Depreciation and Amortization	6.0%	6.4%	6.3%	6.2%
Customer support and Operations	12.0%	11.7%	11.0%	10.7%
General and Administrative Expenses	6.6%	8.8%	9.2%	8.9%
Total Company expenses (not related to transactions)	45.6%	45.0%	42.3%	42.3%

	Q4 2014	Q4 2015	Q4 2016	Q1 2017
	Growth Rate (YoY)			
R & D Expenditures		3.5%	3.4%	9.7%
Sales/Marketing/Advertising Expenses		-1.2%	-0.8%	2.1%
Depreciation and Amortization		24.2%	15.2%	4.6%
Customer support and Operations		13.3%	9.7%	7.1%
General and Administrative Expenses			22.2%	14.7%
Total Company expenses		15.1%	9.6%	11.2%

What is the correct rate of growth in expenses?

- **IF expense growth is 8% or less the company FCF growth is compelling.**

We are struggling to get to the same numbers...

STOCK PRICE KEEPING PACE WITH THE EARNINGS GROWTH



- Last two years PYPL stock has grown earnings at about 18% per annum and the stock price has kept pace especially in 2017 after the upgrades in earnings
- The only thing that worries us is that this is not a non-consensus bet, and our argument is market is underestimating the growth potential.



Source: Bloomberg

DCF: DOWNSIDE ANALYSIS



- We see **20% downside to \$40**
 - We assume zero growth of free cash flows beyond next two years.
- We see that as a severe scenario and assumes there is disruption to current strong growth momentum for PayPal from various sources.

PayPal Holdings Inc	12/12	12/13	12/14	12/15	12/16	12/17E	12/18E	DCF	USD
Net Income	778	955	419	1,228	1,401	2,140	2,851	0.0% Growth - 10y	
+ Depreciation & Amortization	382	453	516	608	724			40.0 DCF	
GAAP/non-GAAP adj						-553	-650		
+ Other Non-Cash Adjustments	396	667	1,545	762	1,006	1,000	1,000	-19% Upside	
+ Changes in Non-Cash Capital	9	-82	-260	-52	27	0	0	8.5% Discount	
Cash From Operating Activities	1,565	1,993	2,220	2,546	3,158	3,311	3,925	2.5% Terminal value	
+ Disposal of Fixed Assets	0	0	0	26	0				
+ Capital Expenditures	-511	-391	-492	-722	-669	-640	-750		
+ Other Investing Activities	-1,015	-1,330	-1,054	-5,693	-4,330	0	0		
Cash From Investing Activities	-1,526	-1,721	-1,546	-6,389	-4,999	-640	-750		
+ Dividends Paid	0	0	0	0	0				
+ Increase in Capital Stocks	57	76	41	101	149				
+ Decrease in Capital Stocks	0	0	0	0	-995	0	0		
Free Cash Flow (CFO-CAPEX)	1,054	1,602	1,728	1,824	2,489	2,671	3,175		
FCF yield%	#####	#####	#####	4.1%	4.2%	4.5%	5.4%		

DCF: UPSIDE ANALYSIS



- **We assume** over next 10 years with the opportunities in mobile commerce, ecommerce, Venmo etc, **PYPL can grow free cash flow at 10% per annum**. This is likely to be 15-20% over the next few years and then slow down.
- This gives us **\$79 or 61% upside** using a discount rate of 8.5%
- **DCF likely to look cheap for a long time**, until the Apple/Google threat situation becomes clearer.

PayPal Holdings Inc	12/12	12/13	12/14	12/15	12/16	12/17E	12/18E	DCF	USD
Net Income	778	955	419	1,228	1,401	2,140	2,851	10.0% Growth - 10y	
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P/E AT A HIGH REFLECTING THE IMPROVING PROSPECTS



- Although PayPal is reflecting the recent prospects improvement in its absolute P/E (next 12 months); it is still below average versus S&P 500 Info tech sector



Source: Bloomberg

Main Risk: Apple Pay & Android Pay

- How big a threat are they?

- **Total dollar value of transactions of major digital wallets:**
 - It is widely estimated the wallet TPV of the major players last year was ~\$420 billion
 - With **PayPal's share at \$290 billion** (~70% of total)
 - **Apple Pay** at ~\$60 billion
 - **Visa Checkout, Masterpass and Amazon Payments** all in the \$20bn –\$25bn range
- The **current dominant position of PayPal is very clear** but **the market is rightly concerned about a future that could be dominated by Apple and Google**
 - In 2016:
 - Apple Pay grew new accounts by 200%
 - Visa Checkout grew new accounts by 90%.
 - Total PayPal is growing new accounts at 10%.

WHAT DO GOOGLE AND APPLE OFFER?



- **Both Android Pay and Apple Pay are digital wallets, similar to PayPal**
 - Within these wallets there will be various forms of funding such as
 - Bank transfer (ACH)
 - Debit cards
 - Credit cards
 - PayPal in Android wallet
 - These **digital wallets can be used to make offline payments using NFC** (contactless) or single touch payment in mobile and desktop apps.
 - Digital wallets are highly secure.
 - Much more than magnetic strips in credit cards and even chip and pin.
 - **It is likely they will reduce the transaction costs and provisions for frauds**
-
- One thing worth remembering is **Apple Pay and Android Pay taking share in the digital wallet is not a threat to Braintree.**
-

HOW DOES GOOGLE/ANDROID IMPACT PAYPAL?



- There are four distinct channels where digital payments will grow:
 1. Offline using NFC
 2. Mobile, in-app, contextual commerce etc.
 3. Browser: desktop and mobile – One-Touch applications
 4. Peer to Peer (P2P)
- Growth of **mobile commerce** because of smart phones and development of **NFC** infrastructure at POS, **is blurring the separation between online and offline transactions**
 - Increasing use of mobile phones for off-line purchases threatens the need for physical credit cards.
 - Promising to convert a larger share of the cash transaction market to digital

PayPal deal with Android Pay

- The deal signed by PayPal with Android enables PayPal consumers to use Android Pay with their PayPal account.
- **This is only to maintain engagement. PayPal makes money on these transactions only to the extent of the funding from balance and not cards.**

CONTACTLESS CARDS HAVE LAGGED IN THE U.S



- **In the US**

- The US has 12,000 financial institutions issuing 1.2 billion payments cards
- **There is an estimated 1.6 million NFC-enabled POS terminals in the U.S** out of a total of 13.9 million POS terminals. (11.5% share)
- Adding an EMV chip to a card was an expense the issuers took in 2014-2016.
 - However, adding a contactless chip and antenna was an optional expense, **one that most issuers chose to forgo during this last massive wave of re-issue**
 - The NFC trend is now in the hands of the digital wallets in the U.S.

- **Key to consumer adoption of Apple/Android Pay will be the pace at which the POS are NFC enabled**

- **Lack of competition from contactless cards will make a stronger case for mobile pay**
 - Pace of online adoption will be determined by Apple/Android ability to sign up merchants, assumedly via merchant acquirers.
-

- PayPal works with NFC on all the Visa and Mastercard terminals.
- However, **we think Apple and Android will be better placed due to their control of the operating system on phones**
 - The security and functionalities that the mobile OS owners will be able to dictate will give them a clear edge over any other solutions
 - Even though you have a credit card in Uber on your Android phone, the Android OS will try to change the payment to Android Pay

- There is no question Contactless/Tap using NFC is a far superior method of payment and has seen fast adoption replacing cash and other cards in some geographies.
 - They stand-out for both **speed and convenience** mostly because no signature or PIN is needed
 - Contact-less cards have been around since 2007
- **Plenty of success around the world for contactless**
 - In **the United Kingdom**
 - 88 million contactless cards have been issued and around 20% of transactions are contactless.
 - Around 20% retailers accept contactless increasing to **mandated 100% by 2020**
 - In **Australia**,
 - 66% of cardholders have a contactless card that allows them to tap and pay.
 - In **Canada**
 - 10 % of all domestic transactions are contactless (in early 2016) and is said to be growing at the rate of 1% per month. ~75% retailers accept contactless
- **However, the UK, Australia, and Canada all have VERY concentrated banking systems. The U.S. does not.**

LONGER TERM THREAT, BUT A LONG ROAD TO SUCCESS



- As of today, PayPal enjoys a strong dominant position with consumers and the merchants. **We think it is best placed to benefit from growth of mobile commerce for at least next 2-3 years.**

- Over the next 2-3 years, Apple and Android have work to do to **build a critical mass of merchants for consumers to start getting interested.** *This is where Google Wallet failed last time.*
- We think **success with offline transactions using mobile will determine the pace** at which Apple and Android Pay will gain market share in online channel and threaten Paypal.
- Development of offline **contactless/tapping infrastructure will be an important determinant of how quickly Apple and Android penetrate the market.** We believe they are in a strong position, but it will take time as the infrastructure develops

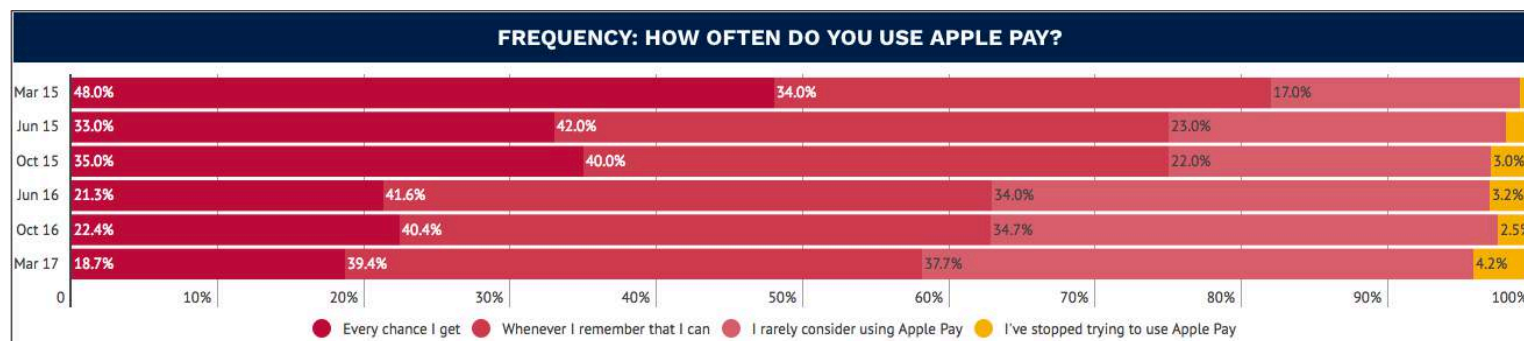
- **Switching payment method inertia is very high** (The U.S. still uses signature in 60% of transactions)
- Until the offline infrastructure develops **PayPal is able to implement One Touch and Venmo for merchants that does not need NFC infrastructure** in the first place.
 - in 2016 less than 4 million merchants accepted Apple Pay, while over 10 million accepted Visa.
 - Apple was thought to soon take over, but its lack of availability has helped place Visa and PayPal ahead of the mobile payment curve in the U.S.

APPLE PAY STRUGGLING FOR TRACTION?



- **Fragmentation is a barrier to entry**

- The U.S. is a market in which there are 1.2 billion payments cards in circulation, more than 47 billion debit card transactions, more than 26 billion credit card transactions and 209 million adults over the age of 18.
- There are ~12k financial institutions that issue those cards and countless merchant acquirers and ISOs.



Source: pymnts.com

- **Consumer usage:**

- consumers with the right phones and the Apple Pay app shopping in stores that accepted it and who used it more than once **peaked in March of 2015**.
- “Nearly 49 % of Apple Pay users (48.6 percent) told us in March of 2017 that the reason they don’t use Apple Pay is because they’re happy with their existing payments methods — up from 37 percent two years earlier.” (<http://www.pymnts.com/apple-pay-adoption/>)

- **The entire point here is - They’ve chosen not to use Apple Pay.** So far it does not have a compelling value proposition.

- **No consumer interest means no merchant interest. No merchant interest means death.**

Why the payments market will become a platform

- Payments have long been a backwater of finance, pleasantly profitable yet placid.
 - That is changing. **The trend for people to pay for more things on mobile devices, and the growth of mcommerce, has produced a spurt of growth.**
- The dominant players, banks and credit card companies, face an uncertain future.
 - **Fintech is beating the incumbents** in satisfying customer demand for faster, cheaper and easier-to-use products.
 - **Regulators are increasing the pressure on banks** to cut fees, while forcing them to be more co-operative with fintech companies.

-
- **In Europe, the banks are braced for the arrival of the Payments Services Directive 2**
 - Requires lenders to open up access to the data of their clients to third party service providers in a bid to boost competition and stimulate innovation in the sector.
-

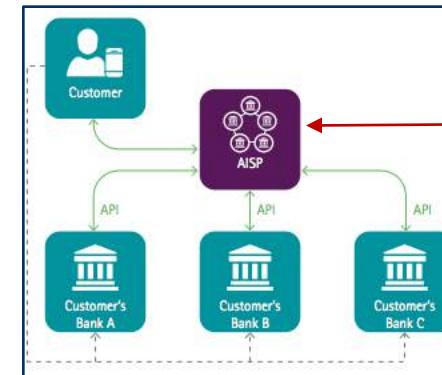
APIs IN EUROPE: THE WORLD IS ABOUT TO CHANGE



- Application programming interface (API) has been a key part of software development for decades
- Finance is only just getting to grips with the disruption caused by APIs because the banks have been able to keep a grip on owning the customer... until now.

- **Payment services (PSD 2) - Directive (EU) 2015/2366**

- **In 2018 the European banks' monopoly on their customer's account information and payment services will disappear**
- Directive will allow merchants to retrieve your account data from your bank.
- Enables bank customers, both consumers and businesses, to use third-party providers to manage their finances.
- Law enacted at a European level in 2015, but EU members have until 2018 to implement it



Owning this part is now the battle-ground

- I.e. **finance is morphing into a customer engagement competition.**

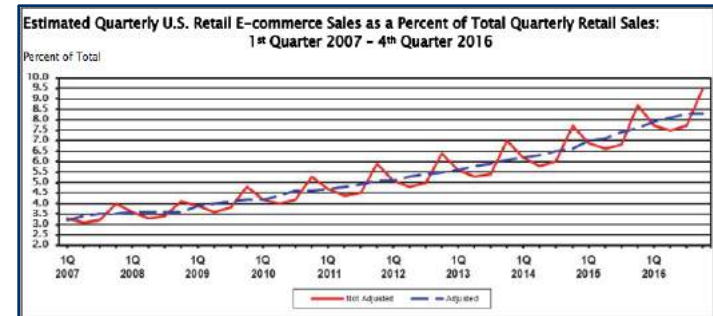
- The banks are losing spectacularly
- Middle men will be disintermediated
- **The value will transfer to the most automated plumbing and the edges of the network: customer ownership and engagement will become defining forces.**
 - Identical to what has happened in media / telco. Dumb pipes vs content + customer ownership.
- API frees developers from lock-in to a particular platform and allow them to more efficiently bring applications to market. Braintree is a good example.
 - Software solution to a traditionally complex problem.
 - They then link to other specialist services, which they also access through APIs.

Mobile Commerce Data

MOBILE COMMERCE

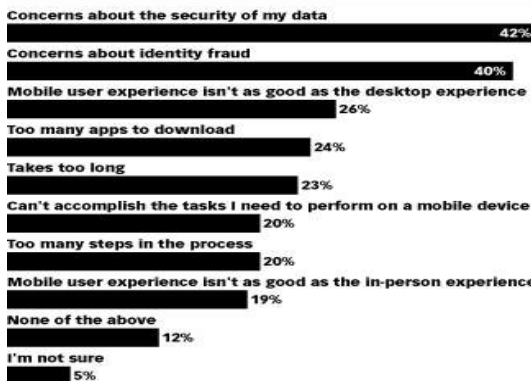


- Holiday season 2016 U.S. Data (Adobe Digital Insights)
 - Smartphone Share of website Visits: 41%
 - Smartphone Share of Sales: 21%
 - Ability/ desire to complete transaction on smartphone remains significantly lower than desktop.
- Global ecommerce growing at 20%
 - Still less than 10% market share.
- Mcommerce growing at ~40%
- Smartphones winning
- Security and identity fraud remain key concerns



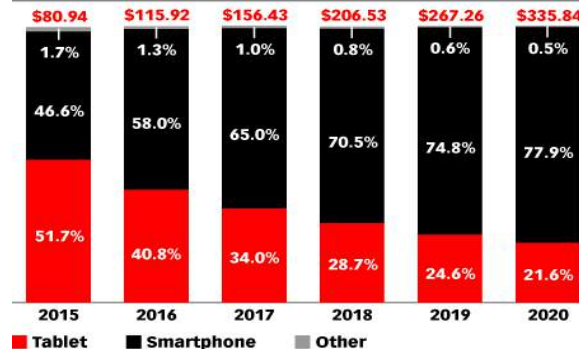
Source: Criteo, www.census.gov

Barriers to Conducting More Transactions/Purchases via Smartphone According to Millennial Smartphone Users in North America and the UK, Aug 2016
% of respondents



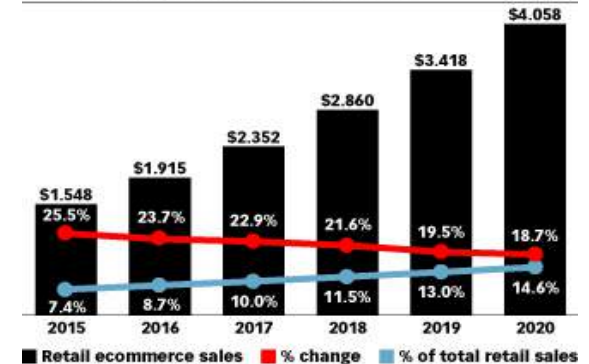
Note: ages 18-34; numbers may not add up to 100% due to rounding
Source: Mitek, "The Millennial Influence: How Their Love of Mobile Shapes Commerce" conducted by Osterman Research, Nov 9, 2016
219484 www.eMarketer.com

US Retail Mcommerce Sales Share, by Device, 2015-2020
% of total and billions



Note: includes products or services ordered using the internet via mobile devices, regardless of the method of payment or fulfillment; excludes travel and event tickets
Source: eMarketer, Sep 2016
216446 www.eMarketer.com

Retail Ecommerce Sales Worldwide, 2015-2020
trillions, % change and % of total retail sales



Note: includes products or services ordered using the internet via any device, regardless of the method of payment or fulfillment; excludes travel and event tickets
Source: eMarketer, Aug 2016
213201 www.eMarketer.com

MCOMMERCE DRIVING DIGITAL COMMERCE GROWTH



- Mcommerce growth of 45% in Q4 16 according to comScore.
- Mobile payments market growing 35%+
 - Mobile taking share in e commerce, but currently at ~21% market share in the U.S.

Mobile Commerce as a Share of Total Digital Commerce Excludes Auctions, Autos and Large Corporate Purchases Total U.S. – Smartphones & Tablets	
Quarter	M-Commerce % Share
Q4 2010	3.60%
Q4 2011	9.00%
Q4 2012	11.30%
Q4 2013	11.70%
Q4 2014	13.00%
Q4 2015	16.90%
Q4 2016	20.80%

Q4 2016 vs. Q4 2015: Desktop and Mobile Spending Non-Travel (Retail) Total Digital Commerce Spending Millions (\$)			
	Q4 2015	Q4 2016	% Change
Desktop	\$76,881	\$86,584	13%
Mobile	\$15,625	\$22,680	45%
Total Digital	\$92,507	\$109,264	18%

Source: comScore E-Commerce and M-Commerce Measurement

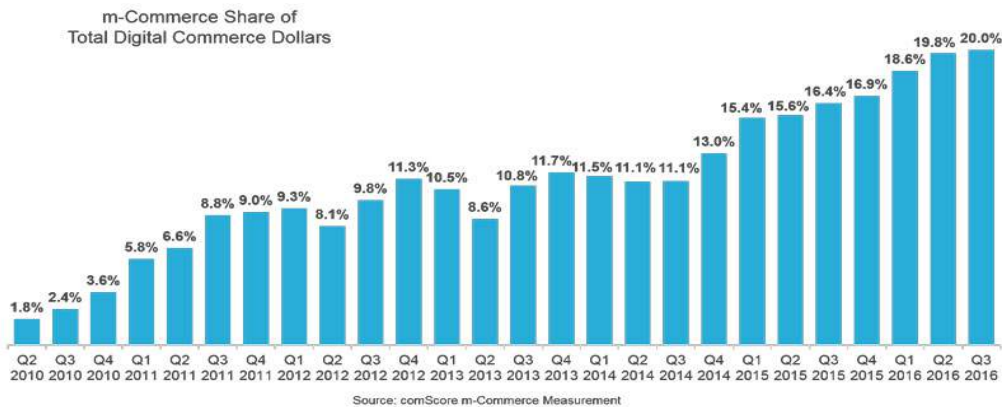
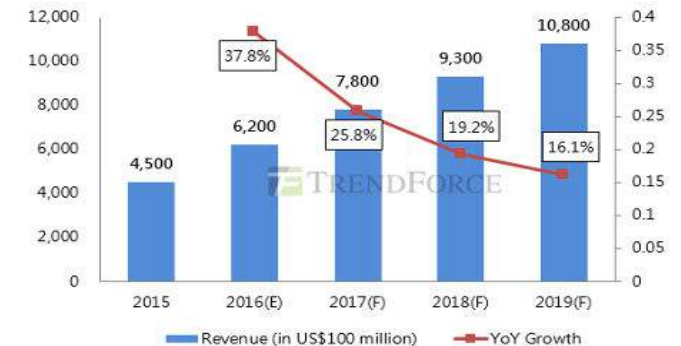
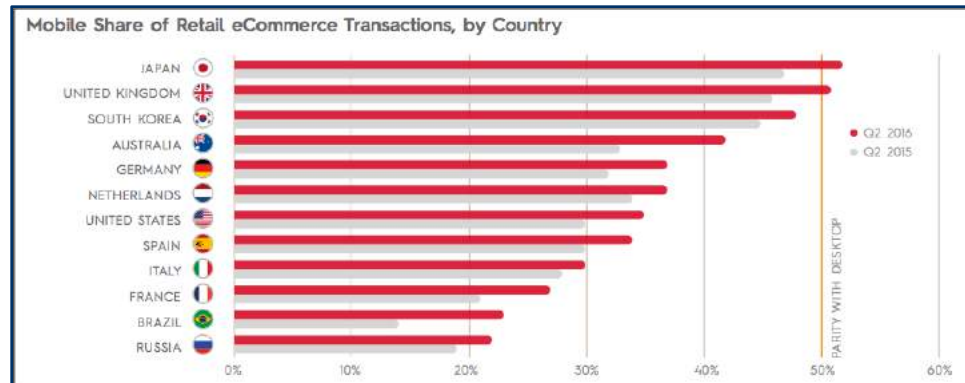


Figure: Total Revenue of Global Mobile Payment Market, 2015–2019



- Mcommerce in Japan, UK and China is greater than 50% share of ecommerce.
- Largest stores already have very high mobile traffic share.
 - Somewhere in the 60% range for the leading ecommerce sites.
 - Top Quartile U.S ecommerce transactions are >52% on mobile now.

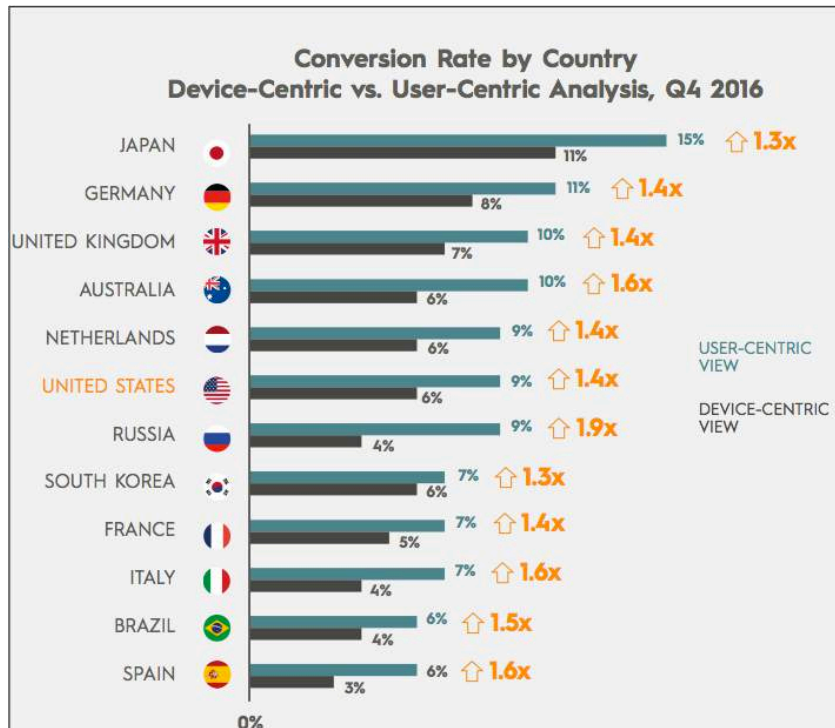


Source: Criteo

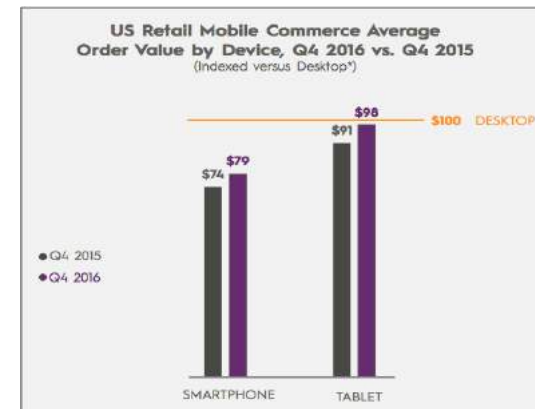
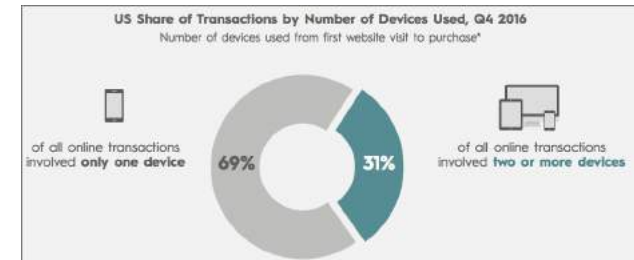
CROSS DEVICE TRANSACTIONS SHARE INCREASING



- Cross-device transactions account for over 30% of online purchases
- **Shifting from device-centric to user-centric analytics has become critical** for e-commerce retailers.
- In markets that ranked highest in mobile share of retail e-commerce transactions around two-thirds of online transactions are made on iPhones. (Criteo Data)



Source: Criteo



IS CASH WHAT PAYPAL AND FINTECH NEEDS TO DISRUPT?

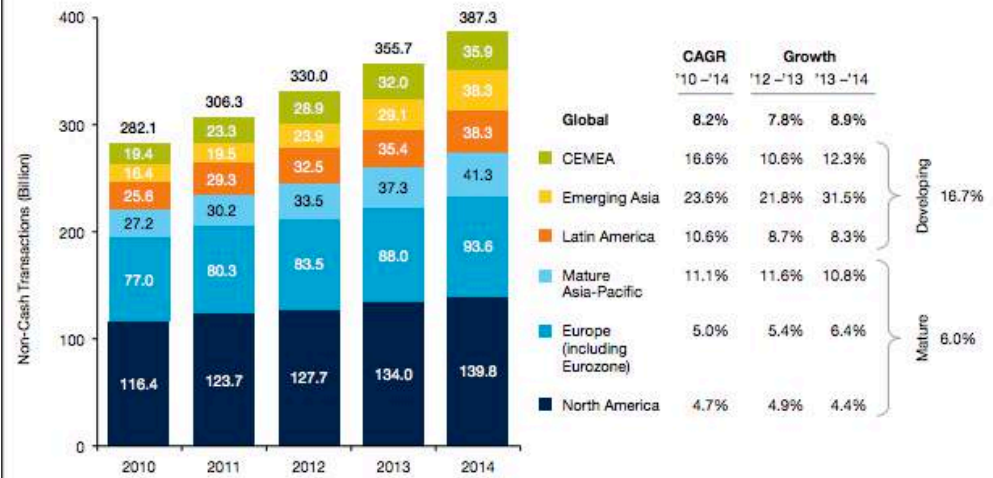


Cashless Transaction Share (volume)	
Singapore	61%
Netherlands	60%
France	59%
Sweden	59%
Canada	57%
Belgium	56%
U.K.	52%
USA	45%
Australia	35%
Germany	33%
South Korea	29%
Spain	16%
Brazil	15%
Japan	14%
China	10%
India	2%

Source: Mastercard

N.B. Volume much greater than value

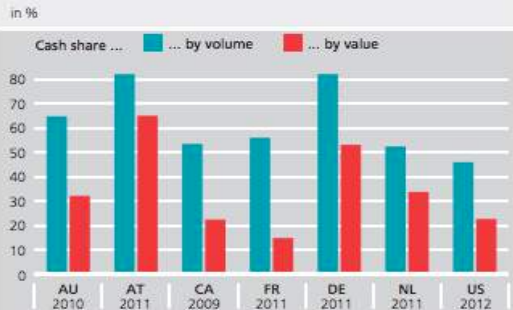
Figure 1.1 Number of Worldwide Non-Cash Transactions (Billion), by Region, 2010–2014



Note: Refer to Methodology, page 45 for details on countries included in each region; Chart numbers and quoted percentages may not add up due to rounding; Some numbers may differ from data published in WPR 2015 due to previous year data updated at the source

Source: Capgemini Financial Services Analysis, 2016; ECB Statistical Data Warehouse, 2014 figures released October 2015; Bank for International Settlements Red Book, 2014 figures released December 2015; Country's Central Bank Annual Reports, 2014

Share of cash transactions in the total number of transactions and total value of transactions



Source Bagnett et al. (2014) - values are based on diary surveys and calculated by the contributing central banks and universities.
Deutsche Bundesbank

Figure 1.6 Cash in Circulation as a Percentage of GDP in the U.S., U.K., Sweden, and Eurozone, (%), 2010–2014

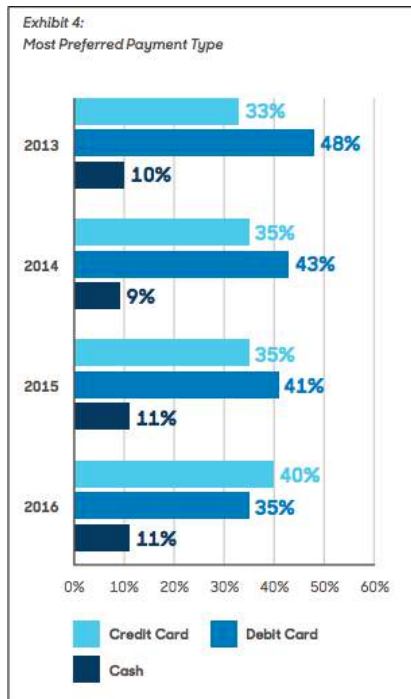


Source: Capgemini Financial Services Analysis, 2016; Bank for International Settlements Red Book, 2014 figures released December, 2015

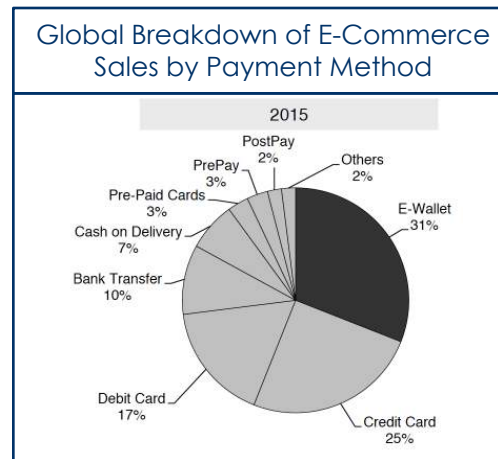
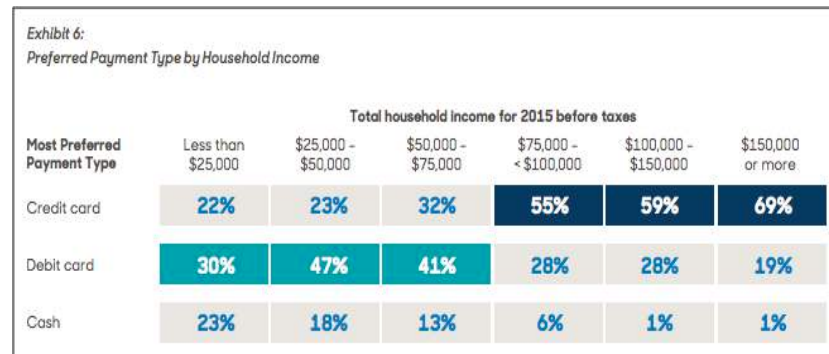
REWARDS DRIVE CONSUMER PREFERENCE FOR CARD USE



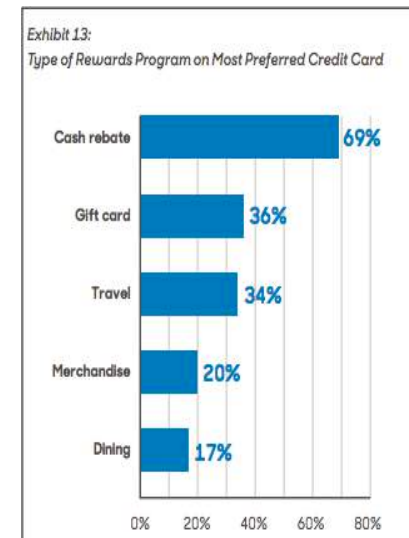
- Rewards consistently top the list as the most attractive feature on why one payment method is preferred.
 - Cash back the best reward
 - Wealthier consumers prefer to credit cards. (Higher interchange, therefore higher rewards)
 - **Credit has been taking share from debit as the economy has improved.** (As a preferred payment method)



Source: TSYS



Source: yStats.com

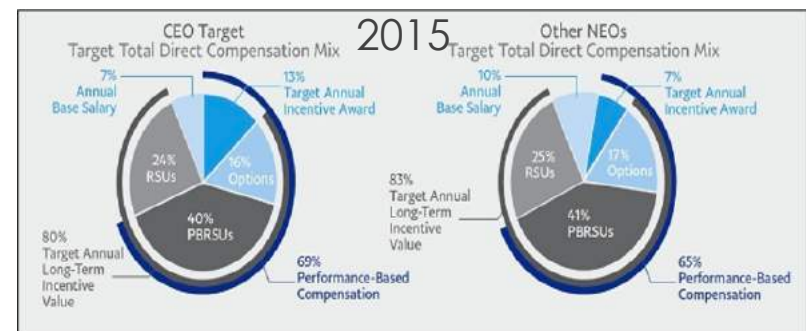
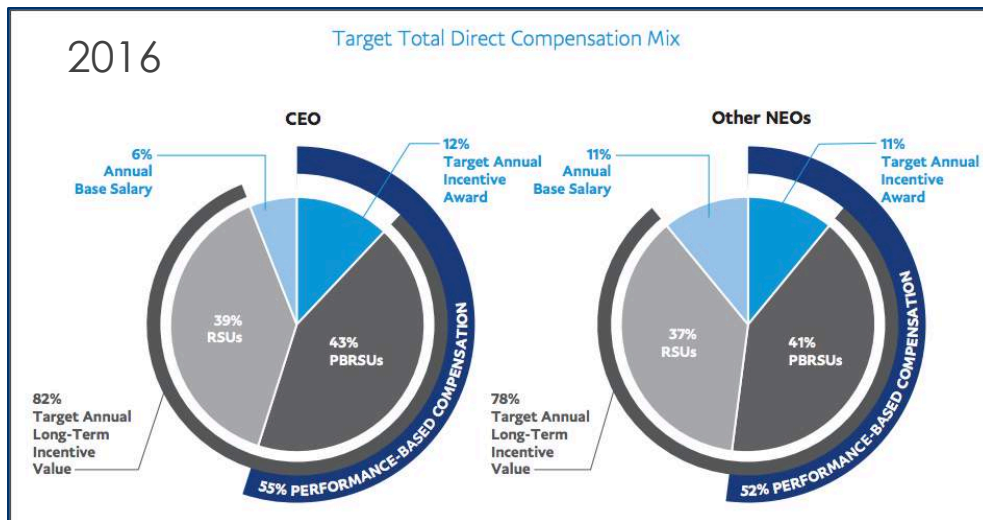


Appendix

MANAGEMENT COMPENSATION



- 2016 performance measures:
 - Incentive compensation was changed in 2016 to a 3 year vesting period from 4 years.
 - Incentive Award drivers:
 - Company Performance – FX-Neutral Revenue and Non-GAAP Net Income, with Net New Actives adjustment
 - PBRSU drivers:
 - FX-Neutral Revenue CAGR and Free Cash Flow CAGR



PAYPAL BOARD



- EBAY ex-CEO John Donahoe is Chairman of the board
 - Interestingly Donahoe “chose to” leave eBay’s board and serve as the chairman of PayPal’s board of directors.
- Dan Schulman is the CEO
 - Joined PayPal in 2014. He previously worked at American Express’ Enterprise Growth division, and before that, headed up Sprint’s prepaid division through the acquisition of Virgin Mobile.

- **Business bank account**
 - We'll deposit your funds into this account automatically – it's up to you to decide which institution you use for your business's bank account.
- **Merchant account**
 - A merchant account is not a bank account – it's what we use to route funds from your customers' accounts to your business bank account. Braintree provides a merchant account as a part of the [Braintree Direct](#) setup. A merchant account is similar to a line of credit, which is why we have you go through an approx 1week application process when you [sign up](#).
 - If you already have your own merchant account, it's possible to continue using it with our gateway. Keep in mind that if you use another merchant account provider, they will have fees associated with their services on top of our processing fees. If you are interested in a gateway-only integration, [contact our Sales team](#) for more details.
- **Payment gateway**
 - Braintree's payment gateway will connect you to all of the banking institutions and payment processors that you need in order to collect money from your customers. You'll give the payment information to Braintree, and we'll let you know if the transaction was approved by the bank.
- **Solutions for different online business models:**
 - **Braintree Direct:** Accept payments for a product or service.
 - **Braintree Auth:** (US & invitation only) Enables your merchants to connect a Braintree account to your platform, and receive permission to take action on their behalf.
 - **Braintree Marketplace**
 - The owner facilitates the marketplace and often charges the providers a service fee.
 - Braintree Marketplace allows you to split transactions and pay your providers through Braintree's gateway. You can designate a service fee with each transaction and Braintree will disburse the appropriate funds to you and your sub-merchant. Onboarding a new sub-merchant is as easy as collecting basic contact information—we'll take care of verifying their identity.
 - **Contextual Commerce:** e.g. Facebook Messenger partners with Uber and Lyft, allowing users to order rides without leaving the Messenger app.
 - Facebook is able to securely share its own stored payment data with Uber and Lyft while ensuring Facebook Messenger users maintain control over their information.

- A chatbot (short for **chat robot**) is a computer program that maintains a conversation with a user in natural language, understands the intent of the user, and sends a response based on AI responses to natural language.
- Two main types of chatbots exist today. First are chatbots designed to serve one or more purposes for a business, says Matt Schlicht, founder and editor of ChatbotsMagazine.com. These chatbots are typically found in messaging apps. The [1-800-Flowers chatbot](#) on Facebook Messenger, for example, is designed to help consumers choose a floral arrangement and send it to someone.
- Similarly, chatbot platforms also exist, any they are virtual assistants such as Apple's Siri, Google Assistant, Amazon's Echo and Alexa, and Microsoft's Cortana, according to Schlicht. These chatbots help users with a variety of information and other needs, instead of helping consumers interact with specific brand
- Chatbots today are widely used by brands to drive ecommerce, especially among younger consumers. Chatbots "have the potential to inspire purchases and increase the number of items in people's shopping carts," says Michael Klein, director of industry strategy, retail for [Adobe](#). While chatbots "can lessen the load of a customer service team and sales associates, the bigger opportunity maps back to personalization and engagement,"
- Consumers have been using chatbots for years, according to Schlicht. When you call an airline, bank, health insurer or other company, for example, you're often greeted by an "automated attendant." That attendant, or bot, aims to help deliver the information you seek by prompting you for certain commands. These types of interactions usually don't result in great customer experiences, he says, because consumers often navigate through multiple phone-tree layers only to be put on hold — or have their calls dropped.
- In comparison, interactions with brands via messaging-app chatbots are visual and more immediate. When you ask questions, for example, chatbots can deliver information to provide answers, such as a video or photo
- Acqn: Modest allows merchants to offer an end-to-end experience that makes selling on any platform easier and simpler. They have built exceptional mobile technology and bring deep talent in contextual commerce to PayPal and Braintree.
- Extract words, determine what customer wants

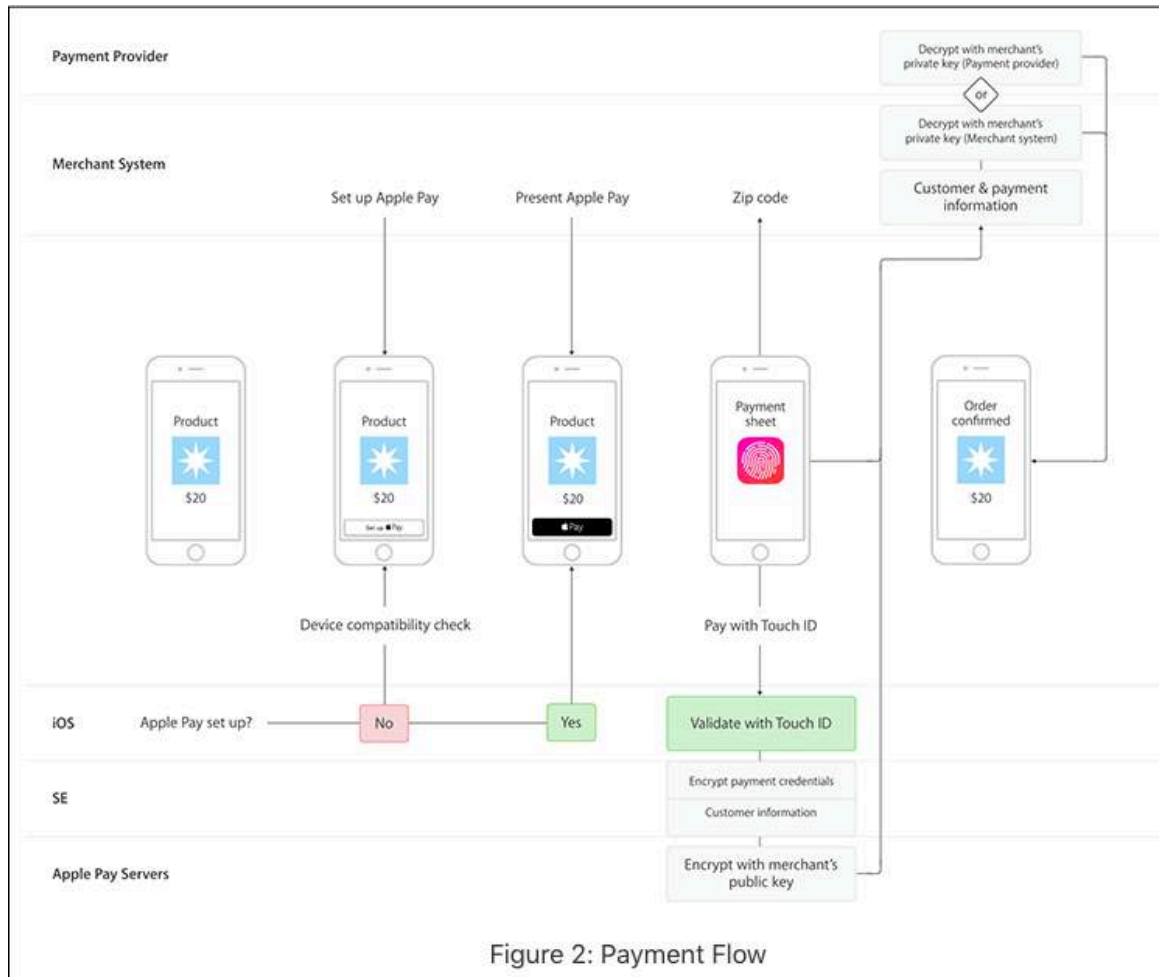


Figure 2: Payment Flow

CROSS BORDER TRADE

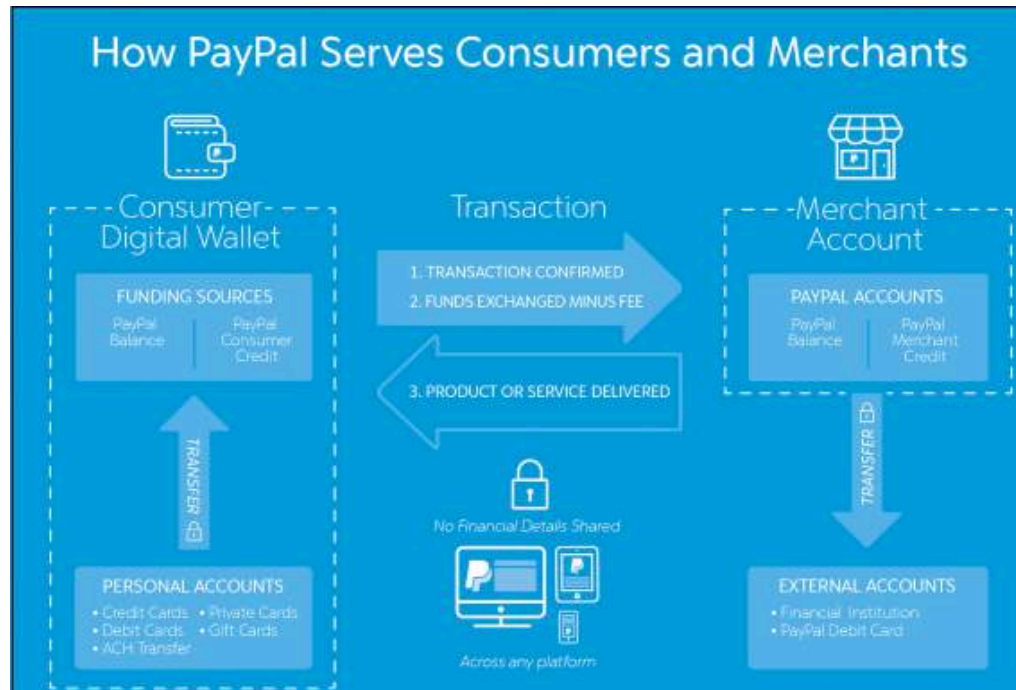


- When you look at how consumers activate on PayPal, consumers activate via cross-border on PayPal one in five in North America, two in five in EMEA, one in three in APAC. And our cross-border shoppers spend twice as much with PayPal as those that are domestic only. And cross-border trade is a full 25% of our business.

PAYPAL CORE PRODUCTS



- PayPal is a technology platform:
 - PayPal is a digital wallet
 - PayPal is a SAAS based solution provider
- The company has a number of services, but at its heart it is a network matching merchant and customer transactions.
 - The network effect is powerful as new networks need to provide sufficient benefits to both merchants and consumers for adoption.



PAYPAL EVOLUTION CHARTS



Standard Transaction Fees

These fees apply when you sell goods or services online (including using PayPal Payments Standard and Express Checkout) and in your store location and the buyer pays using his/her PayPal account.

- No startup costs, no termination fee, no monthly fees
- Accept PayPal payments with Express Checkout
- Accept PayPal payments and all major credit cards with PayPal Payments Standard

If you're selling goods or services and the sale occurs:	And the funds you are receiving are coming from a PayPal account:	then you pay:
Through an online transaction	In the U.S.	a fee of 2.9% of the transaction amount plus a fixed fee based on the currency.
	Outside the U.S.	a fee of 4.4% of the transaction amount plus a fixed fee based on the currency.
In your store location	In the U.S.	a fee of 2.7% of the transaction amount.
	Outside the U.S.	a fee of 4.2% of the transaction amount.

U.S. Funding cost comparison for PayPal

	Cost of Transaction			
	Credit	Debit	ACH	Paypal
Interchange Fees	2%	0.40%	0%	0%
Network Fees / Assessments	0.05%	0.05%		
Acquirer / Processor Fees	0.1% to 0.5%	0.1% to 0.5%		
Transaction Fee			10c to 50c	

PAYPAL MERCHANT OPTIONS



Get paid online	Payments Pro	Payments Standard	Express Checkout
Accept all major credit and debit cards	✓	✓	
Accept PayPal payments	✓	✓	✓
Give customers the flexibility to pay over time	✓	✓	✓
Customize the checkout experience	✓		
Customers pay without leaving your website	✓		
Virtual Terminal for phone, fax, and mail orders	✓		
Create and email professional invoices	✓	✓	✓
Simplified PCI compliance	✓	✓	✓
Monthly fee	\$30	\$0	\$0

CAN APPLE EASILY DISRUPT ONLINE?

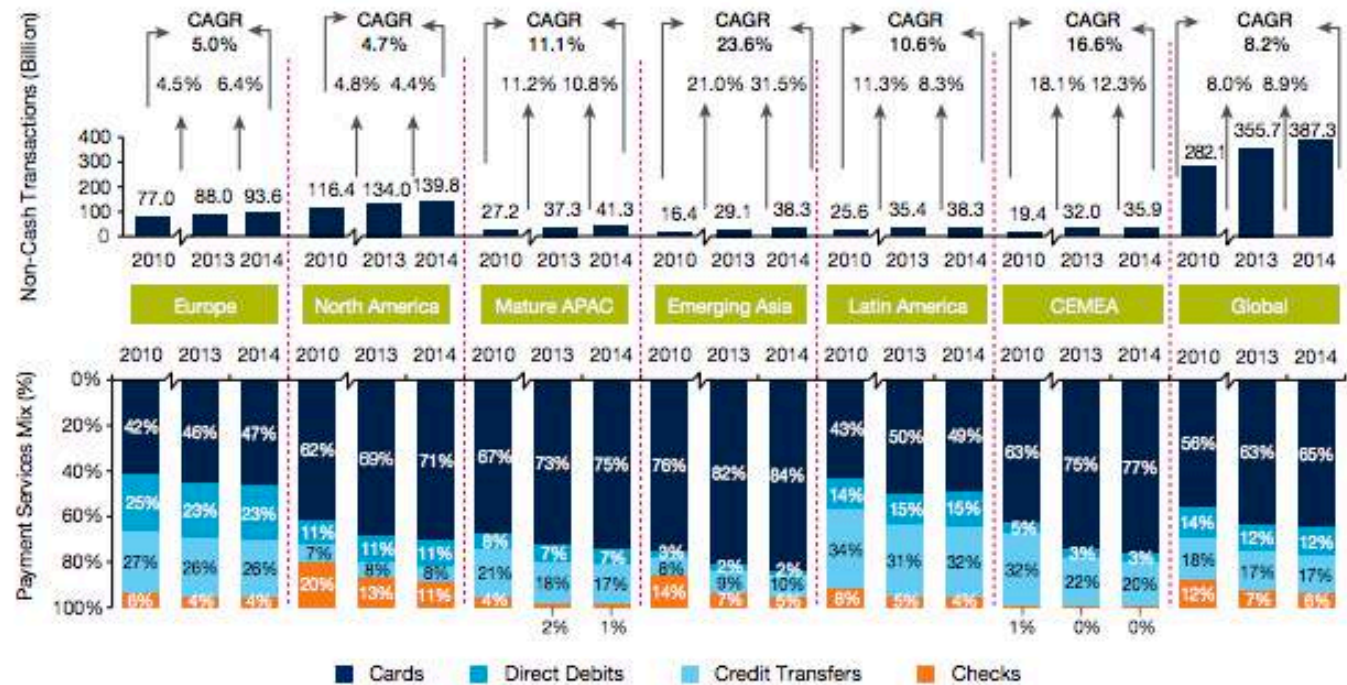


- Replacing the “Buy” button with Apple Pay?
- The big problem:
 - Apple Pay can be used on ONLY iOS apps, watchOS apps, and websites on Safari.
 - **It is a captive solution, not a general solution**
- **Hence what apple says: “an SDK (dev kit) from a payment provider is the quickest and most reliable way to support Apple Pay in your app”**
 - Apple Pay provides an excellent opportunity to offer Guest Checkout to your users. Customers are less likely to abandon the purchase experience when there is as little friction as possible. After completing the purchase, you can make it easy for the customer to create an account by pre-populating a registration form with the information you received from the payment.
- Apple Pay is not a *payment processor*, it is simply a new way to obtain credit card information securely from your customer. Once Apple Pay provides an app with that secure credit card information, you still need to use a payment processor to charge that credit card

CHANGE IN PAYMENT MIX



Figure 1.4 Comparison of Non-Cash Transactions (Billion) and Change in Payments Mix (%), by Region, 2010, 2013–2014



Note: Singapore credit card transaction volume data for all years before 2013 not available; France, Ukraine, and South Africa credit card data not available for all years; Ukraine, Turkey, Japan, and Hong Kong direct debit data not available for all years; Ukraine, Hong Kong credit transfer and checks data not available for all years; Numbers for Austria, Finland, and Germany have been restated for 2010–2013 as per refinements to our methodology; Some numbers may differ from data published in WPR 2015 due to previous year data updated at the source and re-categorization of some geographies

Source: Capgemini Financial Services Analysis, 2016; ECB Statistical Data Warehouse, 2014 figures released October 2015; Bank for International Settlements Red Book, 2014 figures released December 2015; Country's Central Bank Annual Reports, 2014

COMPETITION WILL INCREASE



- Close association of Stripe with Apple Pay is a potential threat for Paypal.
 - **Braintree is not in the processors recommended by Apple.**



- **Revenues derived principally from interest and fees earned on PayPal Credit loans receivable portfolio**, subscription fees, gateway fees, gain on sale of participation interests in consumer loans.
- 2016 value-added services:
 - Consumer and merchant loans receivable balance: \$5.6bn
 - **Loan portfolio growing at 29% YoY.**
- In the third quarter of 2015, we amended the terms of our credit program agreement with Synchrony Financial. As a result of the amendment, we recognized \$78 million of additional revenue under the agreement during 2015

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