

INNOVATION IN RETAIL PAYMENTS:

THE FOUR REVOLUTIONS THAT ARE TRANSFORMING RETAIL PAYMENTS AND COMMERCE

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DISRUPTIVE PAYMENTS INNOVATION MOVING QUICKLY

NEW PLAYERS AND NEW TECHNOLOGIES TRANSFORMING COMMERCE

Payments innovation is accelerating around the world

- Technology revolutions concentrated in communications, software, and data analytics
- Disruption also a function of business models around multi-sided platforms

These revolutions are also facilitating a critical development that will alter the face of retail payments:

- All point-of-use devices for payments will be connected to the internet
- Online and offline distinctions will disappear

Disruptive payments innovators today are both incumbents and new entrants

- Well known firms such as Amazon, Facebook, Google, PayPal, Starbucks and Wal-Mart
- Startups such as Cardlytics, Boku and Square.

RETAIL PAYMENTS INNOVATION

WHAT'S HAPPENING AND WHAT'S BEHIND IT

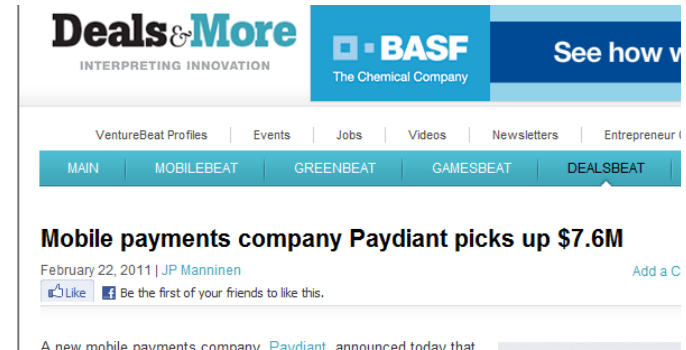
SIGNS OF ACCELERATING PAYMENTS INNOVATION

NEW VENTURES, NEW FUNDING AND NEW INVESTMENTS BEING MADE



Twitter Founder Starts Square: a technology and processing platform to help small merchants more easily accept payments. Visa recently made strategic investment.

Venture money pouring into payments start ups.



Several big announcements a month on innovation and acquisitions of innovators.



PAYMENTS HAS ALWAYS BEEN THE INNOVATION TORTOISE

CHANGE TAKES PLACE OVER DECADES OR LONGER

Rapid innovation not the norm

Payments industry unlike IT or pharma

System interdependencies, sunk investments for infrastructure, and chicken-egg problems create massive inertia

Innovation has occurred very slowly

Cash is still main method of payments 3 millennia later

Paper check going strong after 700 years in many industrialized countries

Plastic card for half century, mag stripe for 30 years, only now being gradually replaced

Payment card product innovation incremental

Major product innovations debit, credit, prepaid

Become commoditized with incremental innovations

Lots of “style” innovations such as colors, shapes, gimmicks

FOUR REVOLUTIONS ARE SPEEDING UP PAYMENTS INNOVATION

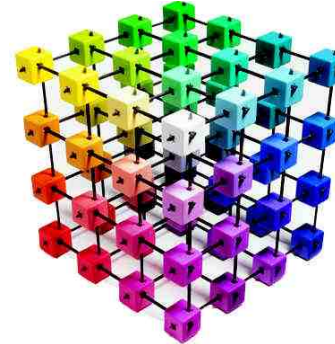
ACCELERATE INNOVATION BY MUTUALLY REINFORCING EACH OTHER



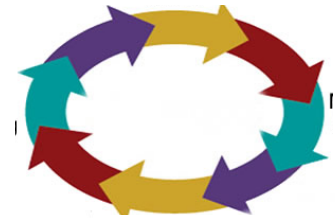
**Mobile and
Social Network
Communications**



**Software
Platforms**



Data Analytics



**Multi-Sided
Platform Models**



THE REVOLUTIONS IN DETAIL

COMMUNICATION, SOFTWARE, DATA, AND BUSINESS MODELS

CONNECTING EVERYONE EVERYWHERE ALL THE TIME

FROM MULTI-CHANNEL TO CONTINUOUS CHANNEL

- Almost 5 billion handsets worldwide
- Over 300 million smart phones sold in 2010 and growing at over 40 percent a year.
- Increasingly GPS enabled so phone “knows” where you are

MOBILE



Lots of innovators are trying to figure out how to develop a killer app that involves payments. Meanwhile many innovations especially using locational info.

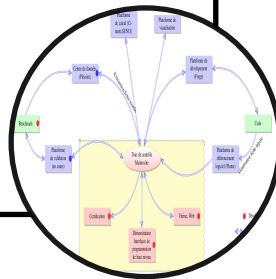
- More than 650 million people worldwide on Facebook, growing at 50% per year.
- Average user spends 6 hours per week on Facebook.
- Most major US merchants have “fan pages” to connect with people.
- Has become massive worldwide communications platform for people (and soon businesses) worldwide.

FACEBOOK



Facebook has its own payments currency—Facebook credits—which supports massive economy involving virtual goods. E-commerce evolving quickly.

MAKES INNOVATION EASIER AND LESS EXPENSIVE TO BUILD AND SCALE



iPhoneOS, Android, and Facebook are examples of software platforms. PayPalX and IPCommerce have developed payments open software platforms.



Facebook and GoogleMaps are examples of cloud-based platforms. PayPalX and IPCommerce support payments apps in cloud.

EXPLOSIVE GROWTH OF DATA DRIVES INNOVATION

WEB-BASED COMMUNICATIONS AND E-PAYMENTS FUEL THIS GROWTH

Data on where people are, what they do online, what they purchase, and much, much more.

Google demonstrated value of data analysis with search and advertising.

Massive growth in analytical methods and data collection.

Tension between significant privacy issues and value creation for consumers and merchants.

Lots of innovations that incorporate payments information which is much more valuable than much of data collected.

RealTime Rewards™



APP STORE SUCCESS SPURS MULTI-SIDED PLATFORMS

PROVIDES DISTRIBUTION FOR INNOVATION OF OTHERS

Massive success of Apple's "App Store" has highlighted power of using software-based multi-sided platforms for explosive growth.

Multi-sided platforms create value by bringing diverse groups that need each other together and make money by charging some or all of those groups for value.

Software platforms provide foundation for very efficient global multi-sided platforms.

PayPalX has created what is in effect an "app store" where the apps all use PayPal for payments.



**500 million apps downloaded.
And counting.**

There are more than 15,000 apps on the App Store, and so far iPhone users have downloaded an incredible 500 million, in every category from games to business.

iPhone3G

REVOLUTIONS ARE HELPING TO PUT THE “ON” IN OFF LINE

PHYSICAL WORLD MERGES WITH ONLINE POINT OF SALE

The Internet is becoming like electricity—something that all devices are connected to

PCs were the first to become connected—widespread penetration of PCs in developed world

Mobile devices are becoming connected—smart mobile phones have browsers

Televisions next—Netflix, Hulu, Google TV

POS and other POU devices become connected

Apple, Square, RoamData, Intuit are among companies at the forefront of this.



ECONOMICS OF PAYMENTS INNOVATION

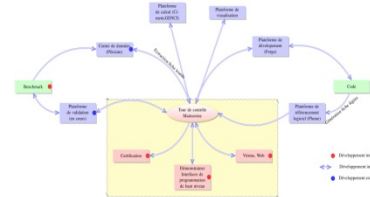
TWO-SIDED MARKETS AND THE IGNITION PROBLEM

MULTI-SIDED PLATFORMS

THE BEDROCK OF THE WEB ECONOMY

Businesses that create value by connecting two or more distinct groups of “users” who need each other together.

Platform usually help different types of users find each other through search and matching and to exchange value.



Software Platforms

Developers
People
Hardware makers

Payments

Payers
Payees

Ad-Supported Media

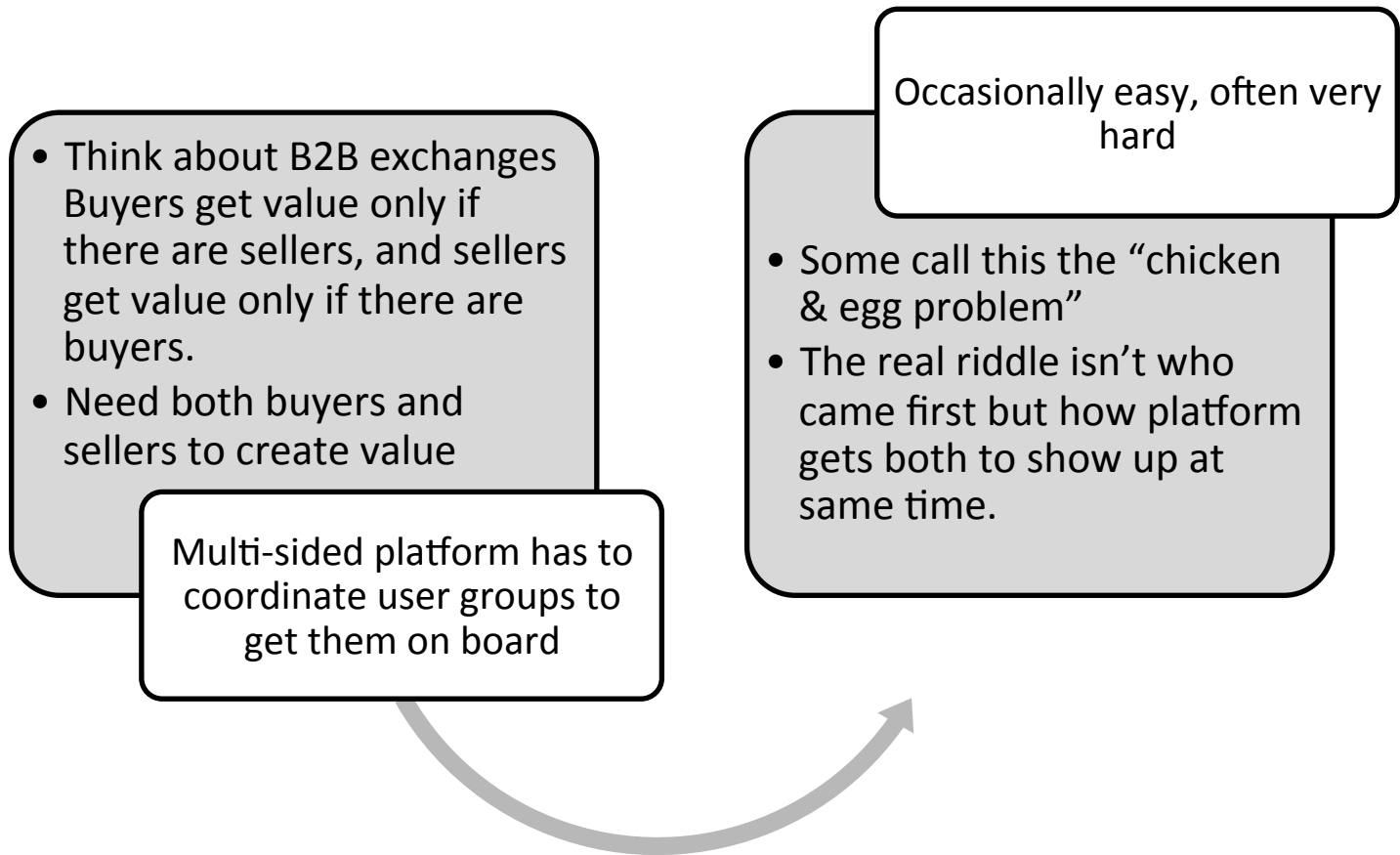
Viewers
Advertisers

Shopping Malls

Shoppers
Stores

MULTISIDED PLATFORMS MUST SOLVE HARD PROBLEMS

SUCCESS IS A FUNCTION OF BALANCE AND COORDINATION



Payments create value only if buyers accept it and sellers use it.

MULTI-SIDED PLATFORMS NEED CRITICAL MASS TO IGNITE

CRITICAL MASS IS NEEDED TO IGNITE THE PLATFORM

Multi-sided platforms face
“critical mass” problem

Need enough type A users to
create value for type B;

And enough type B users to create
value for type A.

Start-up challenge is to get enough
users of different types of board to
generate critical mass before early
adopters lose interest.

**Most B2B
exchanges failed
because they
couldn't get
enough suppliers
to make platform
valuable to buyers
in a timeframe that
was relevant to
both sides.**

MOST PAYMENT INNOVATIONS CAN'T IGNITE

EITHER BECAUSE LACK OF VALUE, OR LACK OF VIABLE IGNITION STRATEGY



THE FRONTIERS OF PAYMENTS INNOVATION

DIVERSE EXAMPLES OF INNOVATIONS IN PAYMENTS

PAYPALX USES CLOUD BASED SOFTWARE PLATFORM

GENERATES EXPLOSIVE GROWTH BY MOVING INNOVATION TO EDGE



**Announcing the Next
PayPal X Developer Challenge!**



- Launched in 2009 to allow developers to build services on top of PayPal's payment platform
- APIs enables software developers to plug PayPal's transaction and payment technology into their payment systems
- 50,000 developers have used the platform
- \$1 billion of processing volume has gone thru the platform
- Developer conferences provide opportunities for developers to collaborate and PayPal to evangelize
- eBay and PayPal now on common platforms

GOOGLE ANDROID PAYMENTS MAY IGNITE NFC IN US

AD-SUPPORTED MODEL COULD HELP SUBSIDIZE MERCHANTS



- Android is now 35% of all smartphone operating systems
- NFC trials reported driven by offers and not “tap and go” payments as consumer/merchant value proposition
- Retailers will be able send targeted ads to users, and offer discounts to nearby mobile users.
- Google said to be subsidizing readers, eliminating a huge obstacle



Disruptive business model may ignite this approach: Google is facilitating this entire rollout without asking for a cut of transaction fees.

REDEFINING POINTS OF INTERACTION IN RETAIL STORES

APPLE LEVERAGING ITS PRODUCTS TO MAKE SALES FRICTIONLESS

- Old Navy is piloting an iPod touch-based point-of-sale (POS) system like that used in Apple Stores.

- EasyPay uses a Linea-Pro barcode scanner and card reader sled to capture product and payment information

- Allows customers to complete purchases from anywhere in the store.



OLD NAVY



AMAZON IS TRANSFORMING PAYMENTS




LEVERAGING THE POWER OF ITS MARKETPLACE TO DRIVE REVENUE

Amazon TextBuyIt


Amazon TextBuyIt™
Text an item name to 'AMAZON' (262966)

Find and Buy Items on Amazon.com
using your mobile phone

Using TextBuyIt is easy, try it now:

- 1** Text search keywords to 'AMAZON' (262966)

- 2** Reply with 1 or 2 to buy an item from your search results

- 3** Answer call to hear details and confirm order


You can search on any keyword (i.e. item name, author, artist, etc.) or ISBN/UPC code



- Turning the online/offline shopping paradigm upside down.
- Consumers shop at physical stores and text Amazon the UPC code of the product they want to buy.
- If Amazon has the product and offers a lower price the consumer can send a text to confirm a purchase and have it charged to their Amazon account and shipped home.

Checkout By Amazon

- 1** Customers shop on your website and add items to their cart.

- 2** When your customers are ready to checkout, they click the Checkout by Amazon button.

- 3** Customers are taken to the Amazon Payments website where they sign in with their Amazon account.

- 4** Customers choose a shipping address and payment method, and then place the order.

- 5** The customers are returned to a URL that you specify. Amazon Payments sends a confirmation e-mail to you and the customer.


- Checkout by Amazon (CBA) enables Amazon.com account holders to make purchases on a merchant's site using their Amazon.com account credentials without leaving the merchant's site.

GETTA CONNECTS BUYERS AND SELLERS ON FACEBOOK

RELIES ON THE FACEBOOK PLATFORM API TO MAKE COMMERCE HAPPEN



The screenshot shows a Facebook interface with a Getta advertisement. The ad is for "Emmy nominated DVD box-sets" featuring shows like Dexter, Mad Men, and Lost. It highlights a 60% discount, a price of \$18.99, and a limited-time offer. The ad includes a "Buy Now!" button and a "Share Deal" button. Below the ad, there is a discussion section with a user comment from Rani Smith. The Facebook page header shows the user's name, search bar, and navigation links. The footer includes copyright information and a chat button.

- Turnkey social commerce platform

- Designed to leverage group dynamics on Facebook; allowing merchants to support exclusive offers, including group buying directly on merchant fan pages

- Uses a variety of viral marketing and incentive tactics to drive new buyers to merchant fan pages

- Makes it easy for merchants to monetize fans and complete sales directly on their fan pages

- Seamless integration with merchant's existing eCommerce platform, branding and customer service/fulfillment processes

CARDLYTICS USES PAYMENTS DATA TO SERVE OFFERS

SELLS ADVERTISERS ABILITY TO SERVE OFFERS ON ONLINE BANKING PAGE

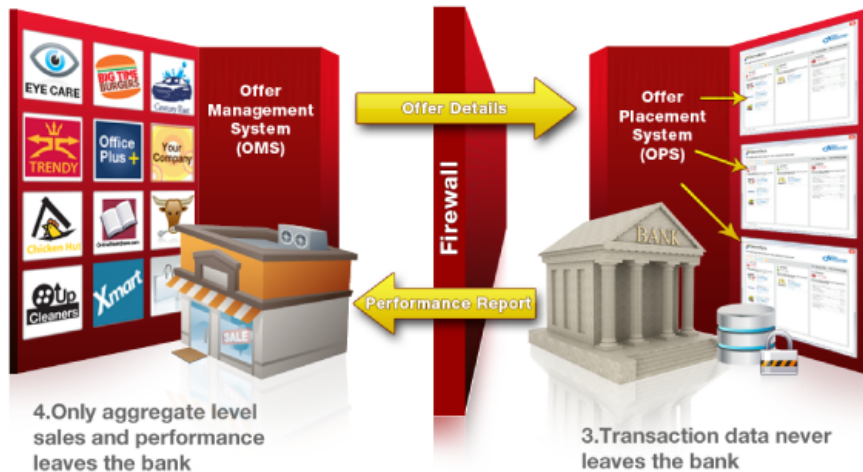


Secure Data Transaction

Personal identifiable data is never used and customer transactions NEVER leave your data center

1. Merchant campaigns are pushed nightly to each bank

2. No personally identifiable data is required – just transaction data and unique account identifiers



4. Only aggregate level sales and performance leaves the bank

3. Transaction data never leaves the bank

- Transaction marketing platform
- Enables financial institutions to present offers that are funded by local, regional and national merchants
- Personalized using an account holder's actual spending patterns to ensure the offers are relevant to each recipient.
- For example, a customer who ate at a fast food restaurant earlier this week might be presented with an offer to earn rewards from another fast food chain.

**Massive increase in value of payments to consumers and merchants
as a result of decade of innovation**



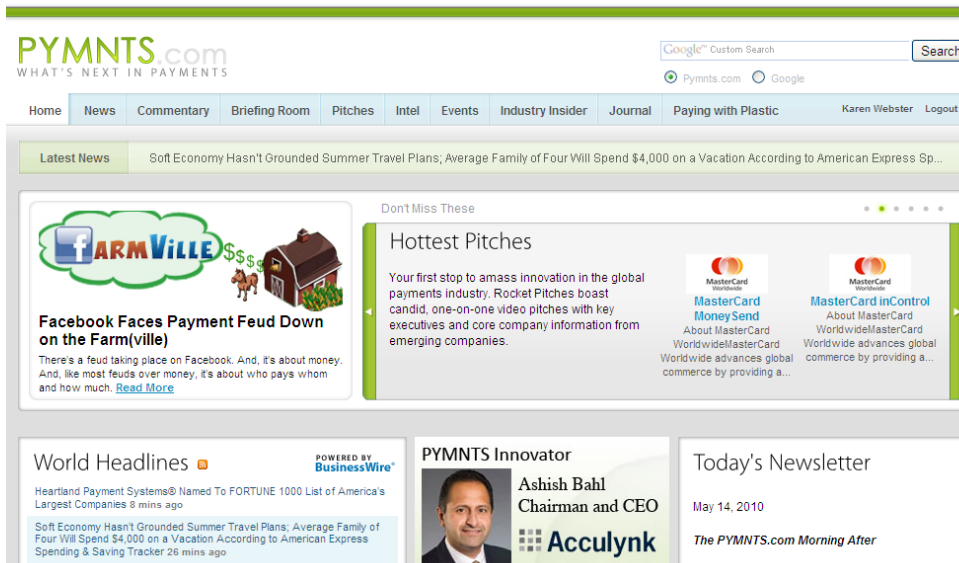
**All devices internet connected.
No such thing as “offline”.
Bricks and mortar stores have
web-based POS devices.**



**Payments innovation driven by
applications that work with
major payments software
development platforms.**

Thank you.

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For more information
visit
PYMNTS.com

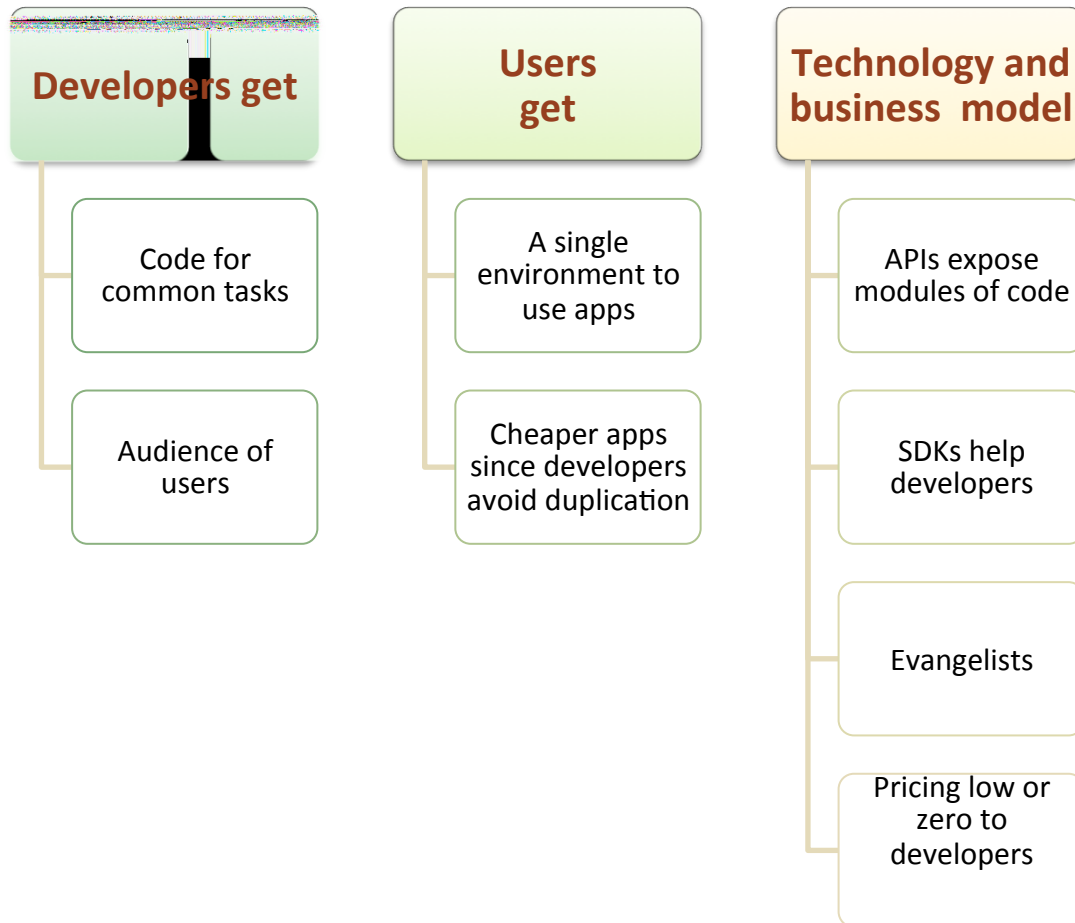
pymnts.com/how-software-development-platforms-will-drive-innovation-and-transform-payments

- How Invisible Engines Drive Innovation and Transform Industries

INVISIBLE ENGINES

INNOVATION AT THE EDGE BY EMPOWERING DEVELOPERS

Software platforms put users and app developers together



Successful Models:

- Windows
- Facebook Connect
- Android

New Building Blocks:

- Web 2.0
- Connectivity
- Cloud Computing

Cloud Computing:

- Applications on “server farm” connected through Internet (e.g. iPhone)
- Software platform may be in cloud too (FaceBook Connect, PayPalX)
- Software changes in cloud, not on device

EXPLOSIVE GROWTH FOR SOFTWARE PLATFORMS

SUCCESSFUL ONES SECURE POWERFUL NETWORK EFFECTS

More applications makes platform more valuable to users (end customers or intermediaries)



More users makes platform more valuable to users



This creates positive feedback effects aka virtuous circle



Common model is to make platform free to developers and make money from users

IPHONE SOFTWARE PLATFORM FOR DEVELOPERS HAS RESULTED IN MORE THAN 100,000 APPLICATIONS

update

Apple - iPhone - Download thousands of iPhone applications. 5/15/10 10:51 AM

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Your iPhone gets better with every new app.

Applications for iPhone are like nothing you've ever seen on a mobile phone. Explore some of our favorite apps here and see how they allow iPhone to do even more.

Apps for Everything

Apps for Cooks
12 Featured Apps
iPhone knows its way around the kitchen. And mine collar.
[View all the featured apps](#)

Apps for Keeping Current
24 Featured Apps
If it's in the news, it's on your iPhone.
[View all the featured apps](#)

Apps for the Great Outdoors
15 Featured Apps
Looks bad Clark. You've got iPhone. Ready to explore?
[View all the featured apps](#)

Apps for Music
11 Featured Apps
iPhone makes beautiful music wherever you go.
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PICK OF THE WEEK
Jobs Business
Add clients, track your time, and export invoices.

Aera Games
Fly classic biplanes through 3D skylines.

CNN Mobile News
Catch up on the news and submit your own.

Zipcar Lifestyle
Find and reserve Zipcars on the go.

Zombie Pizza Games
Race to feed ravenous, organ-loving Zombies.

Shop the App Store.
Browse the App Store in categories from games to business, education

<http://www.apple.com/iphone/apps-for-iphone/>

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