

Federal Reserve Bank of Chicago

Riding the Three Waves of Mobile : Self-Service, Payments and Opt-in Marketing

2009 Payments Conference Payments Pricing: Who Bears the Cost?

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 **Crone Consulting, LLC**
the next wave in payments®

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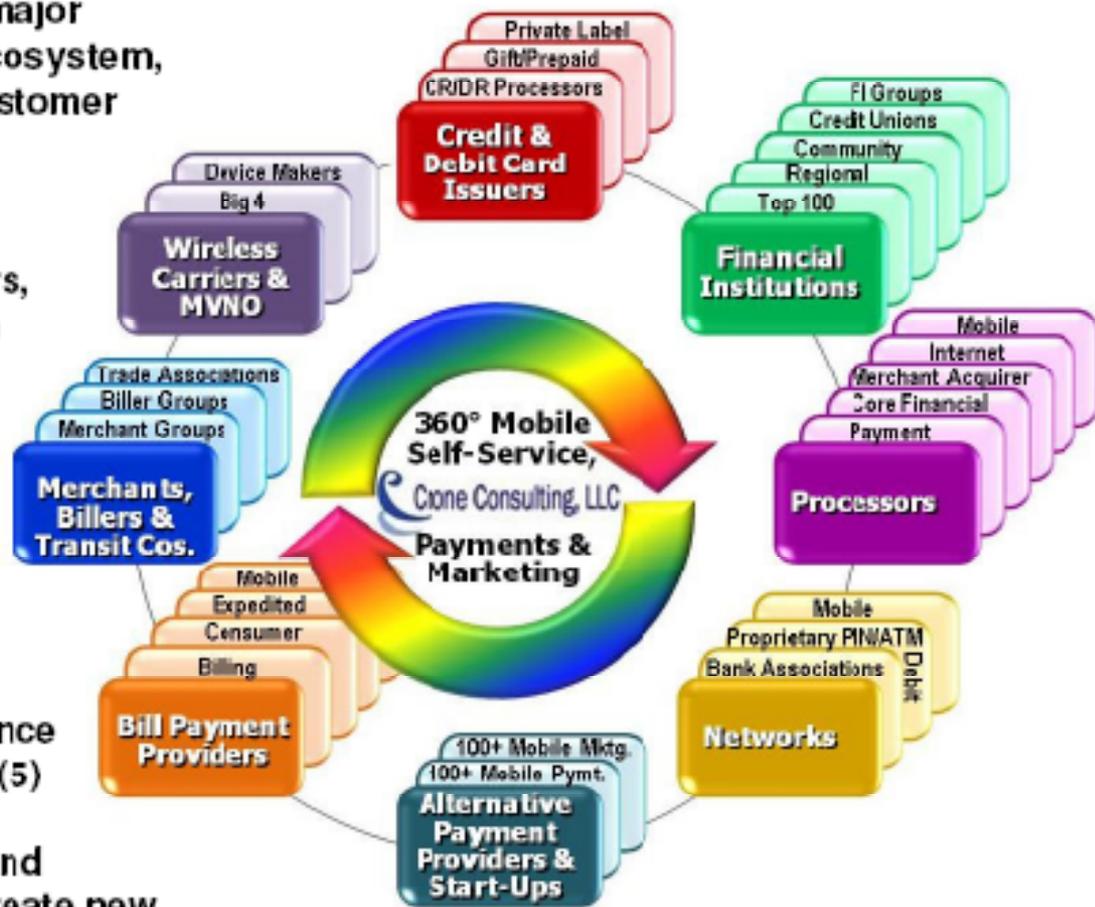
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Crone Consulting, LLC has unmatched expertise in mobile and alternative payments strategy, related customer self-service (CSS) and marketing opportunities, and all aspects of mobile commerce

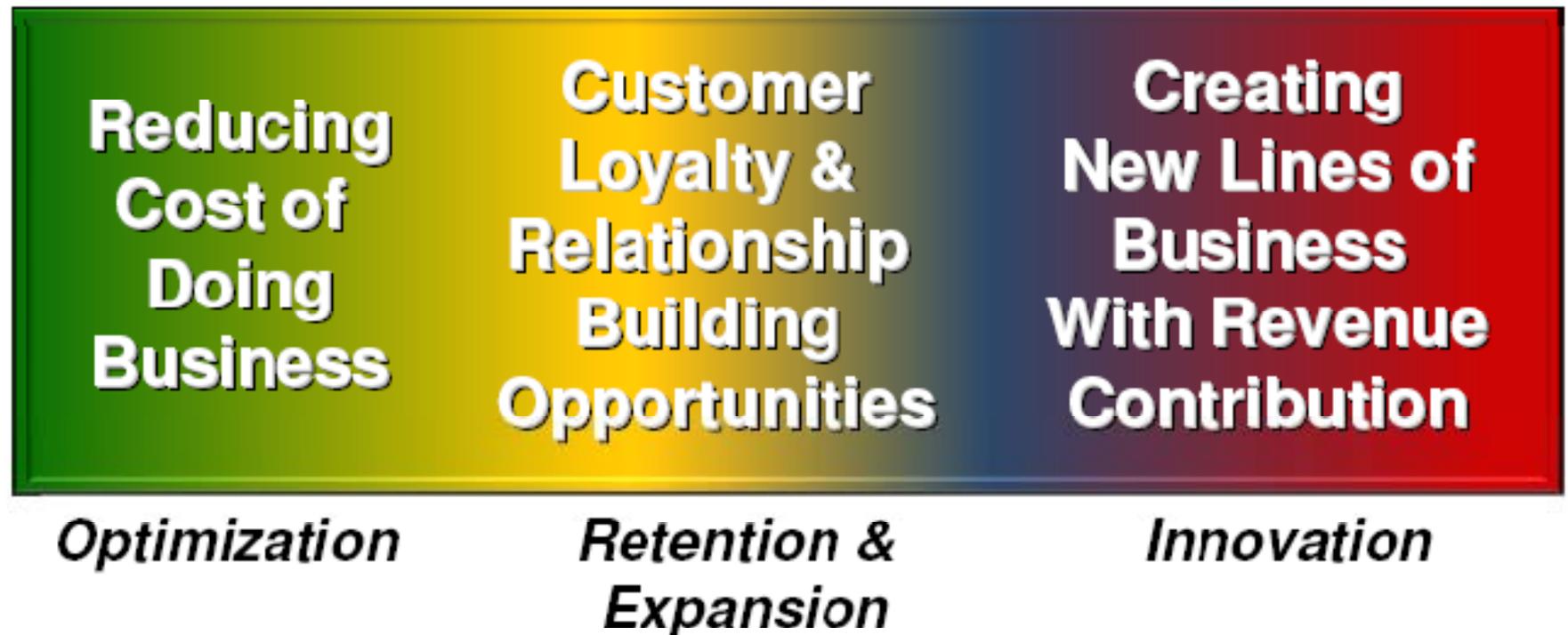
- Consulting clients representing every major stakeholder in the mobile commerce ecosystem, providing a full 360° view of Mobile Customer Self-Service, Payments & Marketing
- Performed the detailed due diligence reviews for many of the largest mergers, acquisitions (M&A) and investments in mobile commerce
- Developed the hands-on electronic payment strategy and implementation tactics for many of the country's largest merchants/billers, banks, processors, integrators and networks
- Posses unique implementation experience and insight on how to leverage all five (5) mobile channels (voice, text, mobile browsers, downloadable applications and Near Field Communications- NFC) to create new lines of business and revenue opportunities



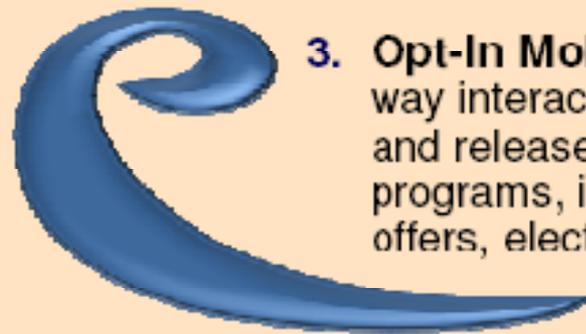
** In the past 24 months, Crone Consulting has led strategy engagements with clients from each of these categories*

The changing landscape of the payments industry offers new business and revenue opportunities for transit authorities; Likewise, banks, issuers, carriers, merchants, billers, processors and start-ups are expanding their view of the role of mobile payments

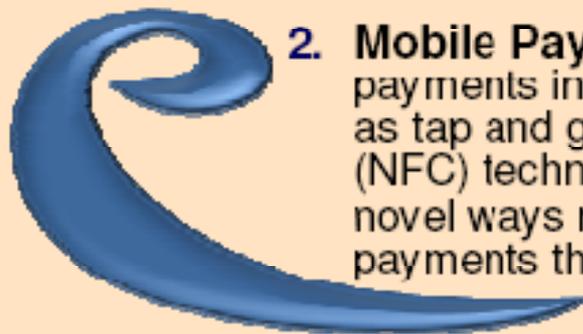
What are the goals of mobile self-service & payments in your business?



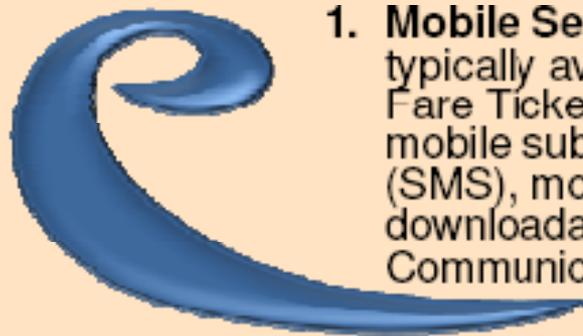
Stakeholders need to strategically position themselves to ride each of the three waves in mobile



3. Opt-In Mobile Marketing - Utilizing two-way interactive functionality for “review and release” transactions, alerts, loyalty programs, instantaneous location specific offers, electronic coupons and the like.



2. Mobile Payments - Enabling cell phones to initiate payments in the physical, point of sale and virtual worlds such as tap and go situations using Near Field Communications (NFC) technology, person to person via SMS and many other novel ways now being developed to facilitate mobile payments that are device, carrier and bank independent.



1. Mobile Self-Service – Patron Self-Service (PSS) extensions that are typically available through the Internet, Voice Response Unit (VRU), & Fare Ticketing Machine (FTM) optimized through one of the various mobile sub-channels such as voice, simple message service text (SMS), mobile browsers using the Wireless Access Protocol (WAP2), downloadable proprietary applications loaded on the phone, Near Field Communications (NFC) and several other different options.

FCRS230.FCRS23A BANK 016 CUSTOMER INFORMATION OPEN 09/06/07 15:28:48

[Redacted]

FEDERAL ID=====>
IRS REPORTABLE=====>
WITHHOLD TAX=====>
SSN CERTIFIED=====>
BIRTH DATE/AGE=====>
SEX=====>
PRIMARY PHONE=====>
SECONDARY PHONE==>
BRANCH=====>
PRIMARY OFFICER==>
DATE OF DEATH ==>
CREDIT SCORE=====>
PRIVACY NOTICE==>
SHARE INFO=====>

[Redacted]

CUSTOMER ID=====>
CUSTOMER TYPE=====
OPEN DATE=====
LAST CONTACT DATE==
CUST DESCRIPTION 1=
2=
3=
4=
5=

[Redacted]

E-MAIL=> [Redacted]
EMPLOYER=====> [Redacted]
CUSTOMER COMMENT==>

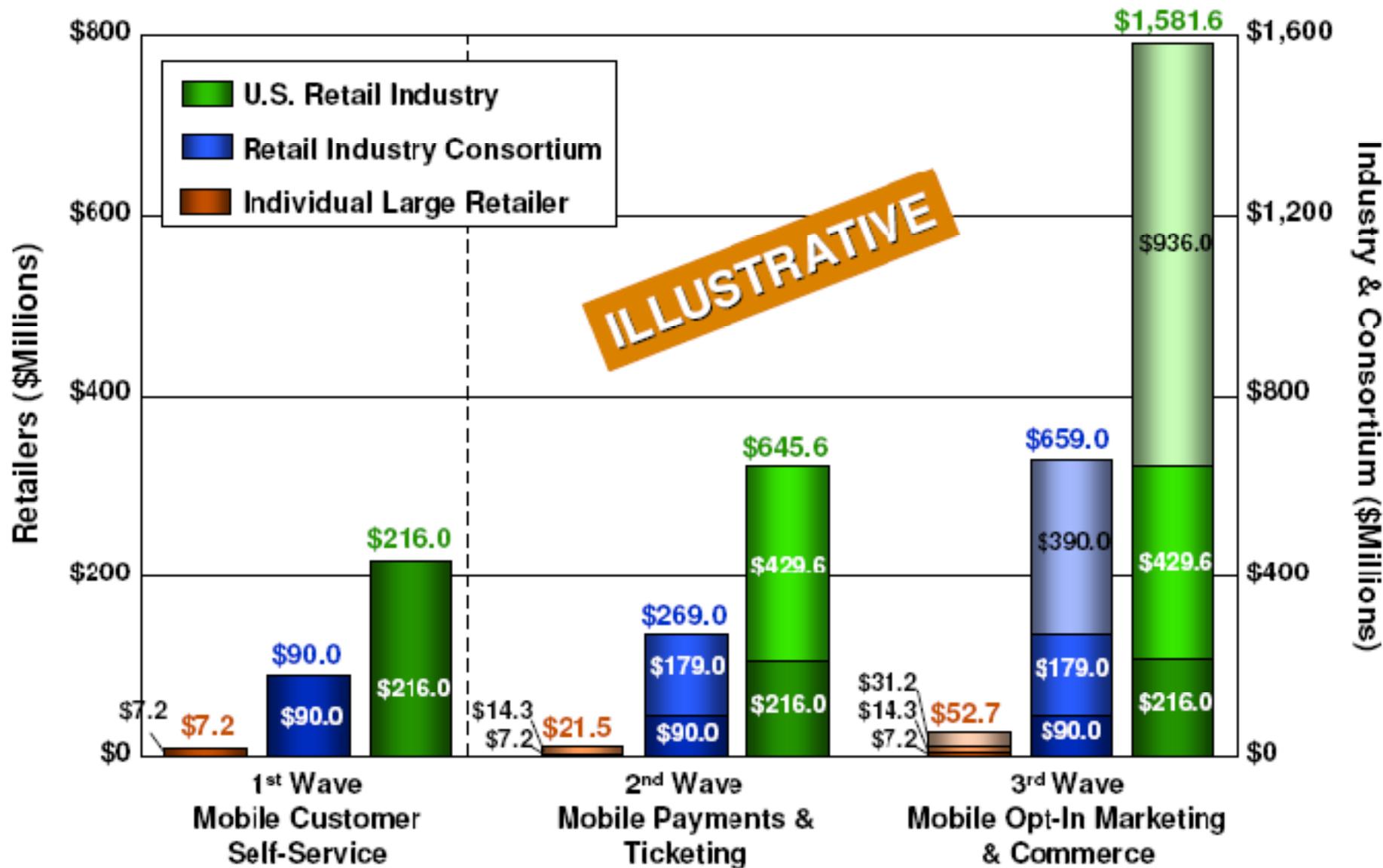
PA1-HELP

PF3-RETURN
PF8-PAGE 2

PF12-MAINT KEYS

PF5-MAINT LOG
PF10-RELATIONS
PF15-END

Each wave represents increasing benefits to the largest U.S. retailers with a minimum of \$7 - \$53+ million for the largest entities



There are five enabling channels available on the mobile phone; three (3) are open and two (2) are closed proprietary channels

<p>OPEN</p> 	<ul style="list-style-type: none"> ■ Voice Extensions – <i>Provisioning Reach, total market, 280mm</i> <ul style="list-style-type: none"> ➢ Better use of voice, Natural Language Processing (NLP), text message and email follow up to voice activated data request
<p>OPEN</p> 	<ul style="list-style-type: none"> ■ Short Message Service (SMS) – <i>196 mm active users, growing exponentially</i> <ul style="list-style-type: none"> ➢ Creating a new customer self-service (CSS) script using SMS as a communications channel; append alerts with opt-in marketing
<p>OPEN</p> 	<ul style="list-style-type: none"> ■ Mobile Browser – <i>215 mm handsets enabled, 65 mm on some type of data plan, 29 mm active users, growing steadily in double digits</i> <ul style="list-style-type: none"> ➢ Mobile browser (WAP2) accessing a streamlined version of the Transit Authority's (TA's) existing customer self-service web site
<p>CLOSED</p> 	<ul style="list-style-type: none"> ■ Proprietary Client-Side Software Applications – <i>Reach, near 0</i> <ul style="list-style-type: none"> ➢ Proprietary, downloaded client software loaded on the mobile device that is driven by TA, bank, carrier and/or 3rd party vendor(s)
<p>CLOSED</p> 	<ul style="list-style-type: none"> ■ Near Field Communications Chip (NFC) - <i>Reach, near 0.</i> <ul style="list-style-type: none"> ➢ SIM vs. Secure Element vs. Memory Card vs. Stickers

Understanding which call types are initiated by which customer segments (demographic, psychographic, technographic) is key to prioritize your mobile CSS options

- **Voice Extensions** – Provisioning Reach, total market, 260 mm
 - Better use of voice, Natural Language Processing (NLP), text message and email follow up to voice activated data request
- Short Message Service (SMS) – 161 mm active users, growing exponentially
 - Creating a new customer self-service (CSS) script using SMS as a communications channel
- Mobile Browser – 215 mm handsets enabled, 65 mm on some type of data plan, 29 mm active users, growing steadily in double digits
 - Mobile browser (WAP2) accessing a streamlined version of the bank's existing CSS web presence
- Proprietary Client-Side Software Applications – 0
 - Proprietary, downloaded client software loaded on the mobile device that is driven by the bank, carrier and/or 3rd party vendor(s)

Voice is the lowest common denominator and using Caller ID, ringback tones and voice mail now make it a viable channel for user defined alerts and notifications



- Reactive
- Pull, on-demand, customer defines request
- Customer defines the call, customer initiates

- Proactive
- Push information, anticipate request
- Customer defines the call, service provider initiates

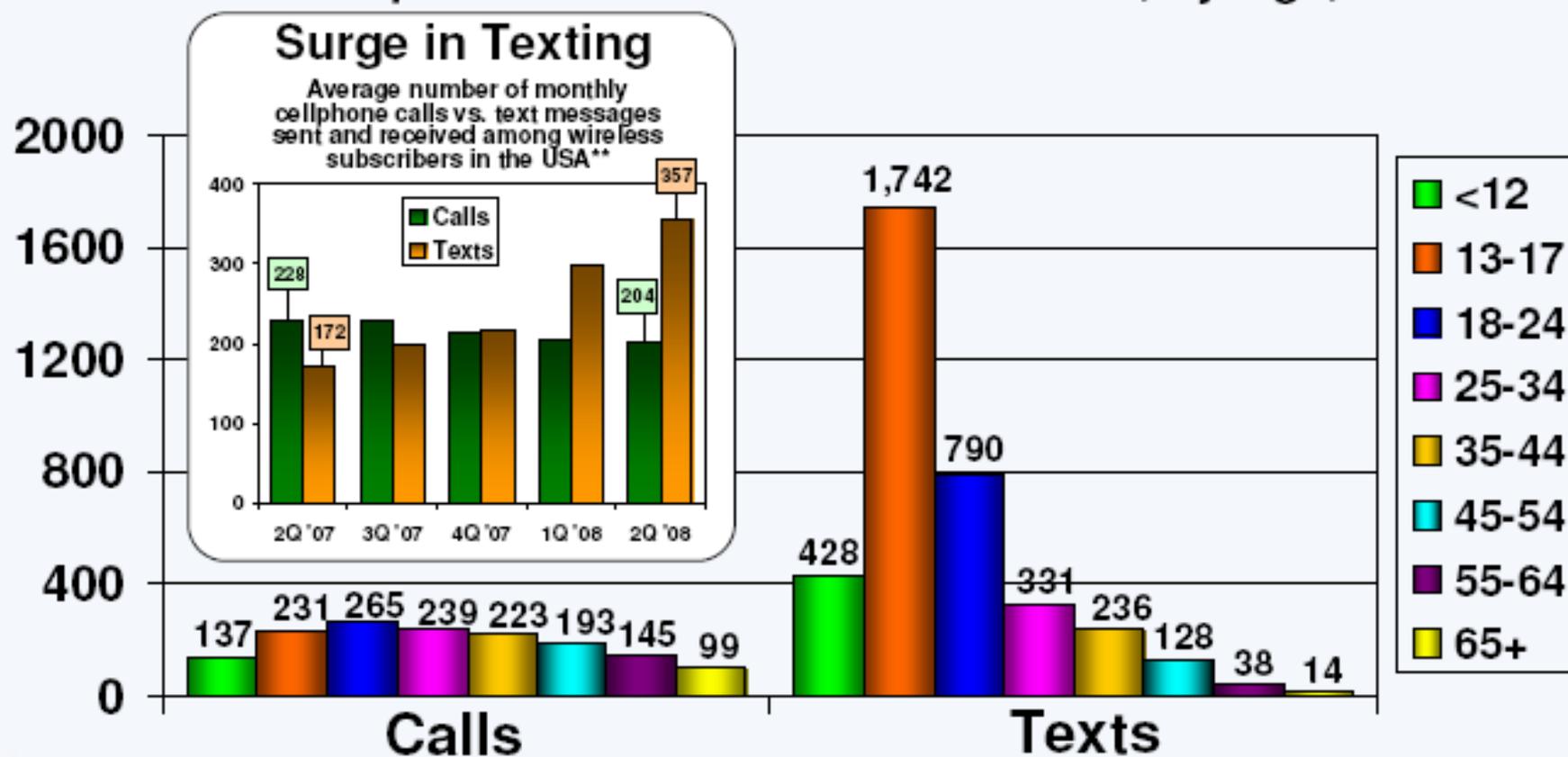
- Most calls today to the contact center originate on a mobile device so...
- Why wait for patrons to call you, allow them to opt-in to user defined voice notifications and reduce the attended calls to your contact center for big savings and increased patron satisfaction by empowering patrons
- Provide prepaid fare product purchases with mobile phones alerts (both voice and/or text) to build your enrolled base of patrons

We now send and receive more text messages than voice calls

- Voice Extensions – Provisioning Reach, total market, 260 mm
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Average US mobile subscriber sent and received more SMS text messages than mobile telephone calls during Q2 2008, according to Nielsen*

Average Monthly Calls Made/Received and Text Messages Sent/Received per US Mobile Phone Subscriber, by Age, Q2 2008



*Source: Email from eMarketer citing Nielsen Mobile press release, September 22, 2008.

**Source: USA Today Snapshots@ citing Nielsen Mobile, October 8, 2008.

Examples of how to create a new customer self-service script using Short Message Service (SMS) from ClairMail*

SMS Text
Short code
22551
Message:
bal

Account Access



Balances, transaction history and other account information

Transactions



Fund transfers, mobile payments, approvals and verifications

No-Hold Customer Service



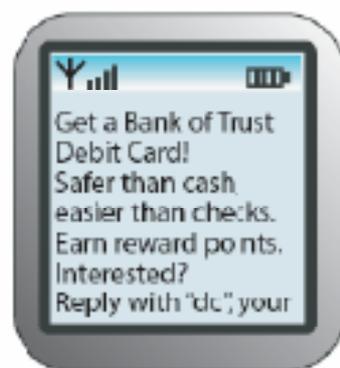
Insert themselves into the call queue without waiting on hold

Actionable Alerts



Automatically send alerts for questionable account activities.

Marketing Campaigns



Launch 2-way customer acquisition and retention campaigns

Transaction-Level Security



Exceed FFIEC requirements for multi-factor authentication

ClairMail says the banks using its system are experiencing "...getting well over 90% of mobile banking consumers signing up for and receiving bank-defined and user-defined 2-way alerts."

*Source: ClairMail brochure titled "Messaging-Powered Mobile Customer Interaction, with permission"

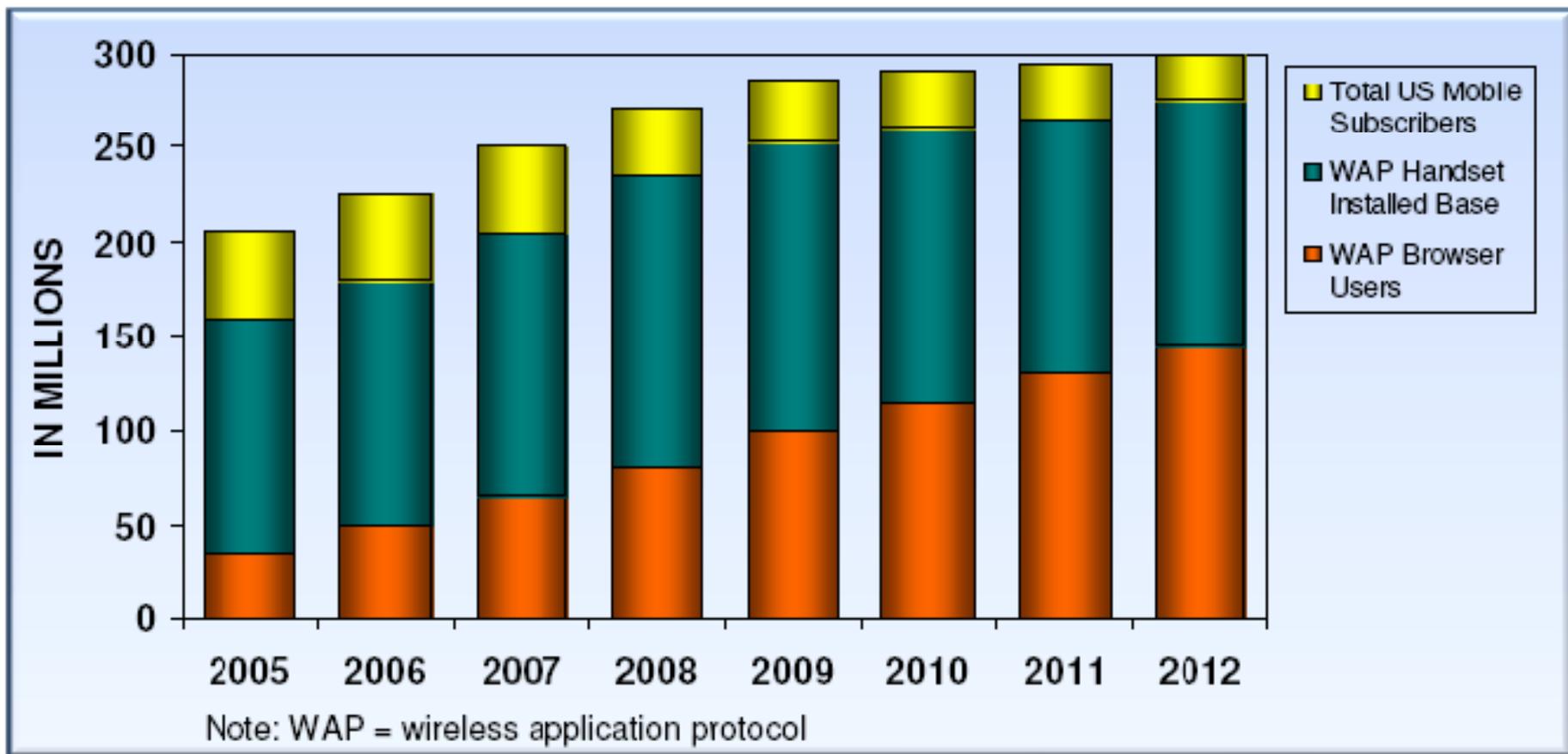
Every mobile phone for the last seven years has been equipped with a mobile browser if for no other reason to access the wireless carrier's own customer self-service website and digital goods

- Voice Extensions – Provisioning Reach, total market, 240 mm
 - Better use of voice, Natural Language Processing (NLP), text message and email follow up to voice activated data request
- Short Message Service (SMS) – 161 mm active users, growing exponentially
 - Creating a new customer self-service (CSS) script using SMS as a communications channel

- Mobile Browser – 215 mm handsets enabled, 65 mm on some type of data plan, 29 mm active users, growing steadily in double digits
 - Mobile browser (WAP2) accessing a streamlined version of the bank's existing CSS web presence

- Proprietary Client-Side Software Applications – 0
 - Proprietary, downloaded client software loaded on the mobile device that is driven by the bank, carrier and/or 3rd party vendor(s)

Total U.S. mobile web browsing subscribers are projected to surpass 250mm by 2008; 300mm by 2012



Source: Promotion of report titled "Bank of America Drives Half-Million Customers to Web-Based Mobile Banking," by The Tower Group, November 7, 2007 on web site at http://www.towergroup.com/research/search/search_reportexhibits.htm?researchFormatId=6&searchType=newSimple&searchSwitch=&submit.y=11&keywords=bank+of+america&submit.x=9&serviceId=&reportSort=sunriseDate&exhibitSort=sunriseDate and Doug Brown, SVP, Bank of America at BAI RDS show in 2007.

The Apple iPhone has redefined the potential for mobile phone based downloadable applications

- Voice Extensions – Provisioning Reach, total market, 260 mm
 - ▶ Better use of voice, Natural Language Processing (NLP), text message and email follow up to voice activated data request
- Short Message Service (SMS) – 161 mm active users, growing exponentially
 - ▶ Creating a new customer self-service (CSS) script using SMS as a communications channel
- Mobile Browser – 215 mm handsets enabled, 65 mm on some type of data plan, 29 mm active users, growing steadily in double digits
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- Proprietary Client-Side Software Applications – 0
 - ▶ Proprietary, downloaded client software loaded on the mobile device that is driven by the bank, carrier and/or 3rd party vendor(s)

What's New in iPhone 3G

3G Speed
Browse fast on 3G cellular networks.
[Learn more](#)

iPhone in Enterprise
Get push email, calendar, and contacts.
[Learn more](#)

Maps with GPS
Find your location and track progress.
[Learn more](#)

App Store
Download thousands of apps.
[Learn more](#)

Important Information

Apple Ultracompact USB Power Adapter Exchange Program. [Learn more](#)



iPhone 3G 15,000 apps. And counting.

The fastest way to buy an iPhone 3G [starts here](#)

is playing.
[View in iTunes](#)

Yelp
Read reviews of places near you.
[View in iTunes](#)

Fieldrunners
Play a game of tactical strategy.
[View in iTunes](#)

[View All](#)

iTunes Music Store.

Now, wherever you go, you can shop for music on both Wi-Fi and cellular networks.



iPhone 3G World Tour
Find your country.
Find your carrier.



There's an app for just about anything
See the new iPhone TV ad.

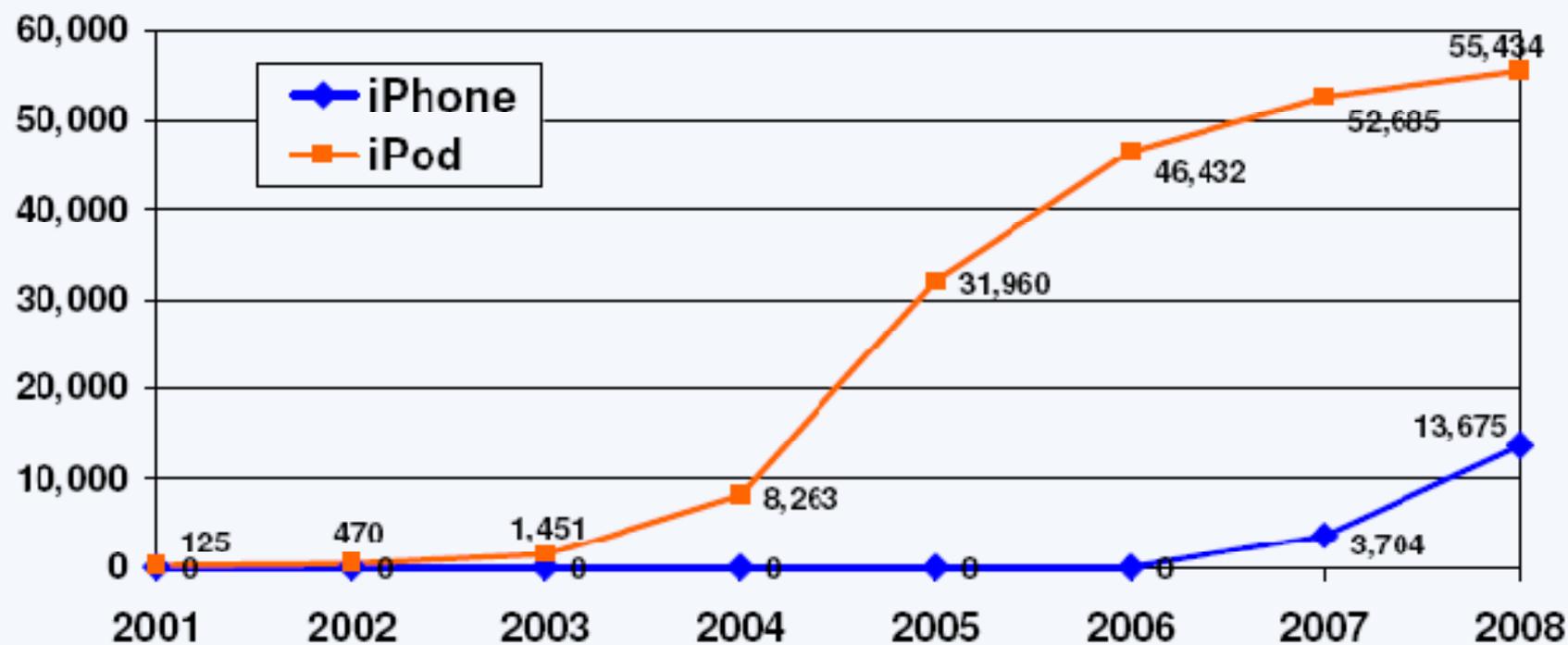


iPhone 2.2 Software Update
Get the latest update.
Get the newest features.



Mobclix reports there are 31,000 apps listed in the Apple App Store (29% free), up from 25,000 officially reported by Apple and 800 million app downloads, up from 500 million reported earlier in year

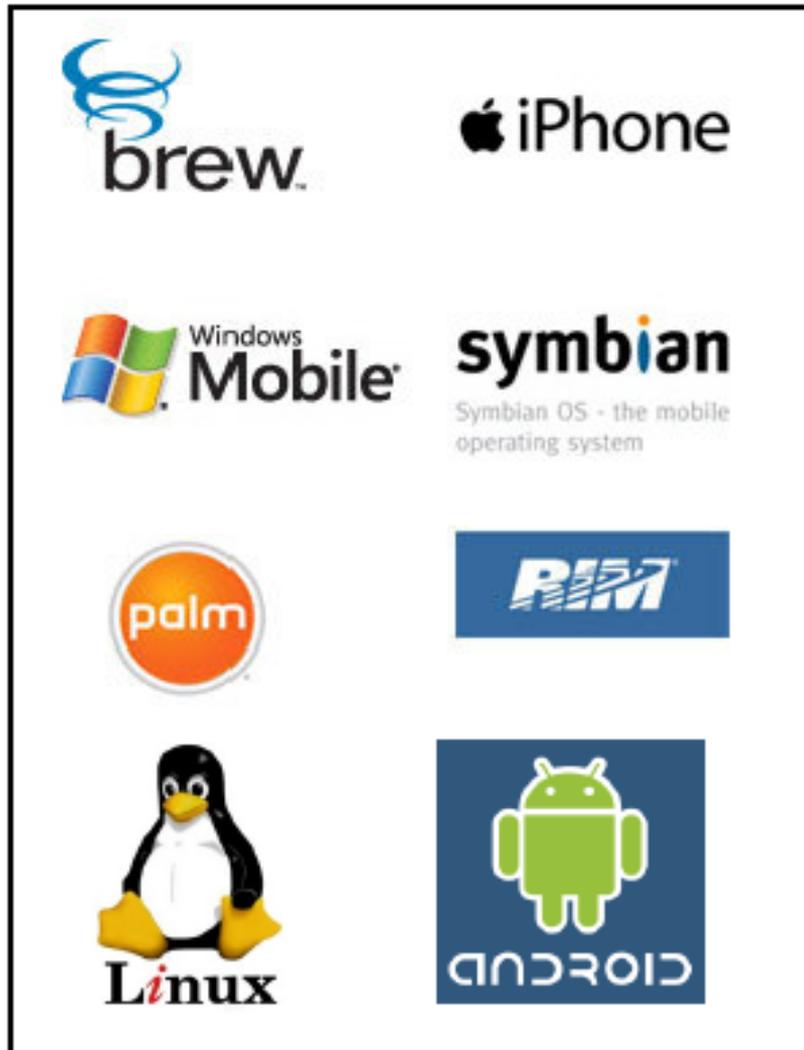
Apple iPod and iPhone Unit Sales Worldwide, 2001-2008 (thousands)



■ Combined installed base of is now estimated to be over 30 million iPhones and iPod Touches

Source: eMarketer email titled "iPhone Downloads Up," dated March 19, 2009, citing Apple company reports, VentureBeat and 149Apps. San Jose Mercury News, "Forecast: rapidly growing marketplace for iPhone apps," April 1, 2009.

There are more than 2,400 different phones in the US, more than 9,000 different models worldwide and multiple versions of 8 major mobile operating systems



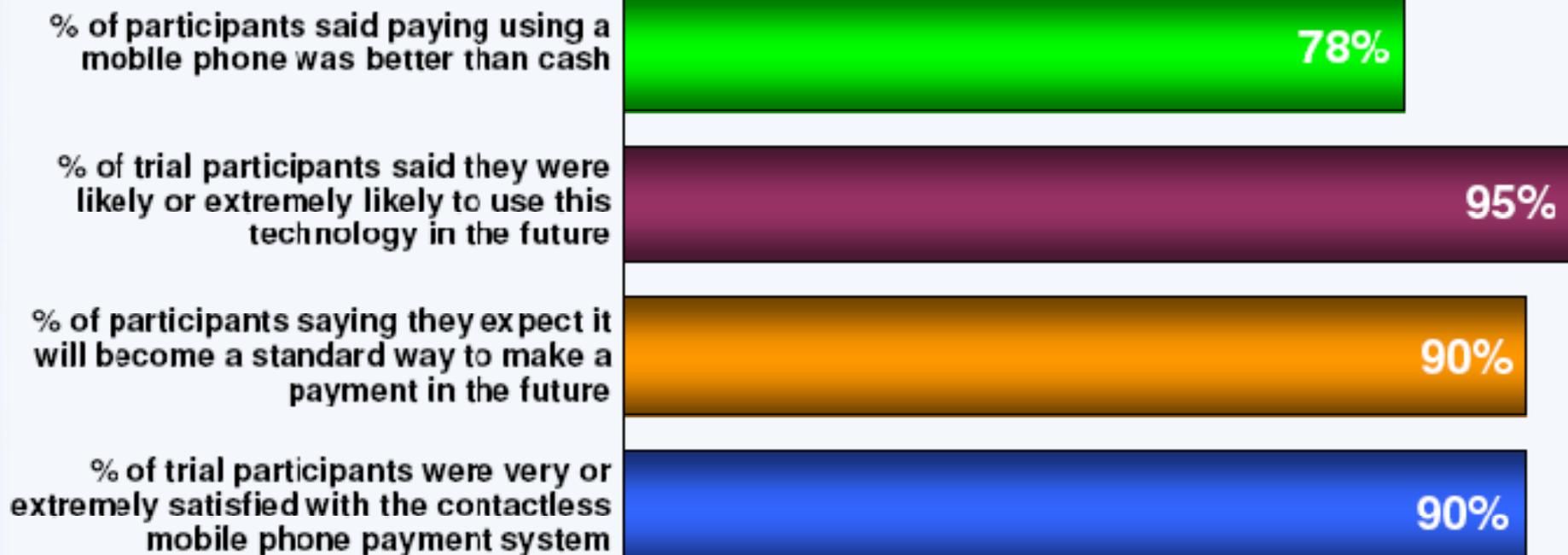
CTIA reports there are over 180 facilities-based wireless providers in the USA; six largest are AT&T (71 mm), Verizon Wireless (67 mm), Sprint Nextel (54 mm), T-Mobile USA (30 mm), Alltel (13 mm) and TracFone Wireless (10 million)

List of United States Mobile Phone Companies

7-Eleven Speak Out Wireless	Cincinnati Bell Wireless	Omni Prepaid
Airlink Mobile	Commnet Wireless	Page Plus Cellular
Alaska Communications Systems	Consumer Cellular	Pine Cellular
Alaska Digital	Cordova Wireless	Pinpoint Wireless
Alaska Telecom	Corr Wireless	Plateau Wireless
Alaska Wireless	Cricket Communications	PlatinumTel Prepaid Wireless
Alltel	Cross Communications	PowerNet Global
Amerilink Wireless	DTC Wireless	Revol
Appalachian Wireless	Einstein Wireless	Simmetry
AT&T Mobility	Embarq	SouthernLINC
BeyondMobile	Epic PCS	Sprint Nextel
Beyond Wireless	Farmers Wireless	STI Mobile
Blue Wireless	GCI Wireless	Telispire
Bluegrass Cellular	Hargray (currently being acquired by Cricket Communications)	Thumb Cellular
Broadpoint	Helio	T-Mobile USA
Buzz Mobile	I wireless	TracFone Wireless
Call4care	Immix	Treo Mobile
Caprock Cellular	Indigo Wireless	Unicel (currently being acquired by Verizon Wireless)
Cellcom	Jitterbug Wireless	Union Wireless
Cellular One of East Central Illinois	KTC	U.S. Cellular
Cellular One of San Luis Obispo	Liberty Wireless	Verizon Wireless
Cellular One of East Texas	Locus Mobile	Viaero Wireless
Cellular One of East Arizona	Long Lines Wireless	Virgin Mobile
Cellular One of Northeast Pennsylvania	Lucky Wireless	West Central Wireless
Cellular One Bermuda	MetroPCS	Westlink
Cellular One of North Alaska	Mid-Tex Cellular	Working Assets Wireless
Cellular One Montana	Movida Wireless	XIT Communications
Cellular South	NEP Wireless	Xtreme Mobile
Centennial Wireless	nTelos	
Chariton Valley Wireless		

Source: List of United States Mobile Phone Companies from Wikipedia, http://en.wikipedia.org/wiki/List_of_United_States_mobile_phone_companies

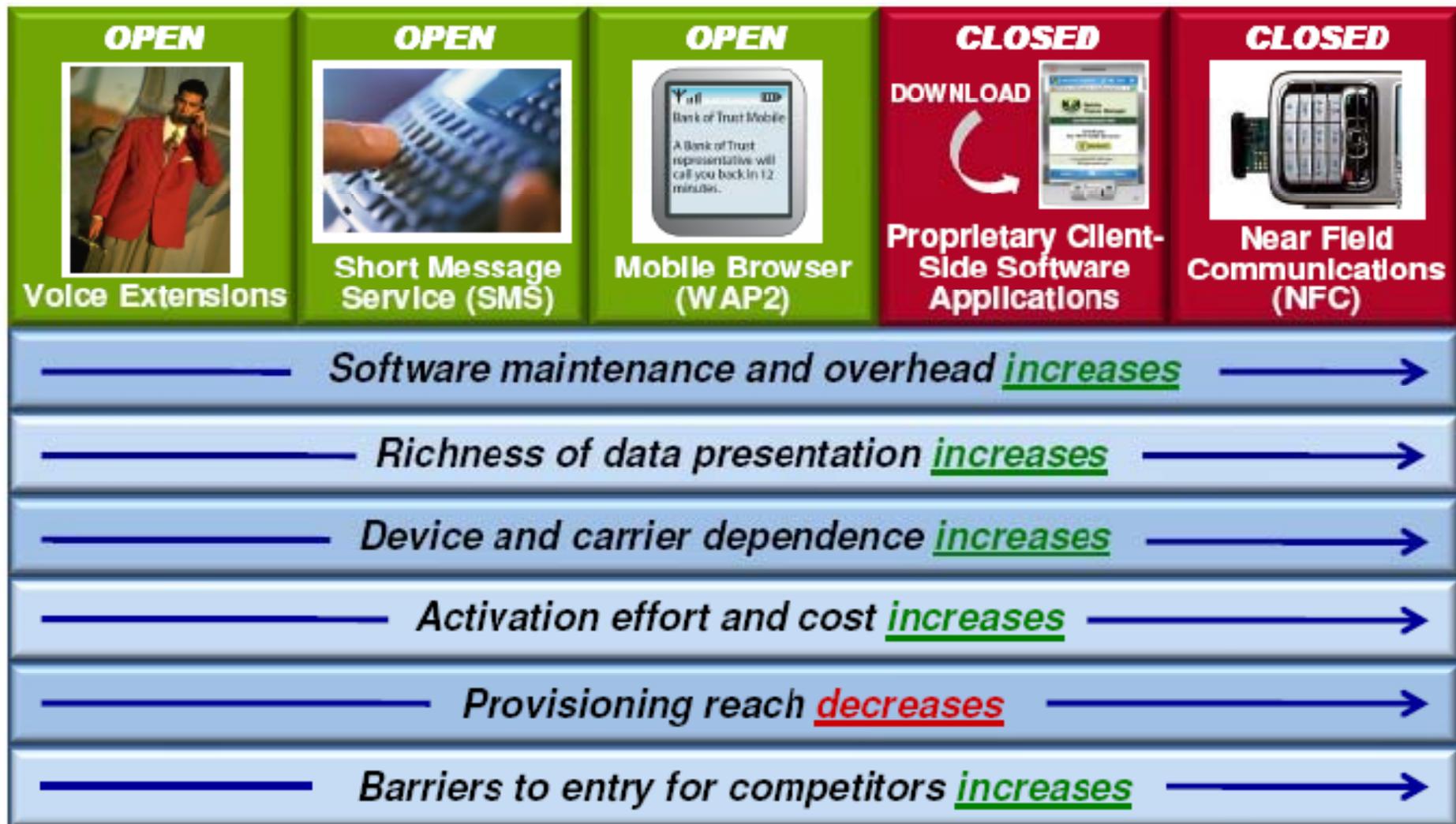
Telstra, National Australia Bank and Visa state the three-month trial of mobile contactless payments at Melbourne's Docklands "...exceeded expectations, with a clear consumer demand emerging for contactless mobile payments and services..."*



*Source: <http://www.paymentsnews.com/2009/02/some-results-from-australias-trial-of-contactless-mobile-payments.html>

**Source: <http://www.nowweareretalking.com.au/news/telstra-nab-visa-launch-contactless-mobile-payment-trials>

Provisioning reach, activation effort, device/carrier dependence, software maintenance and overhead costs all play into the business case for prioritizing each mobile channel alternative

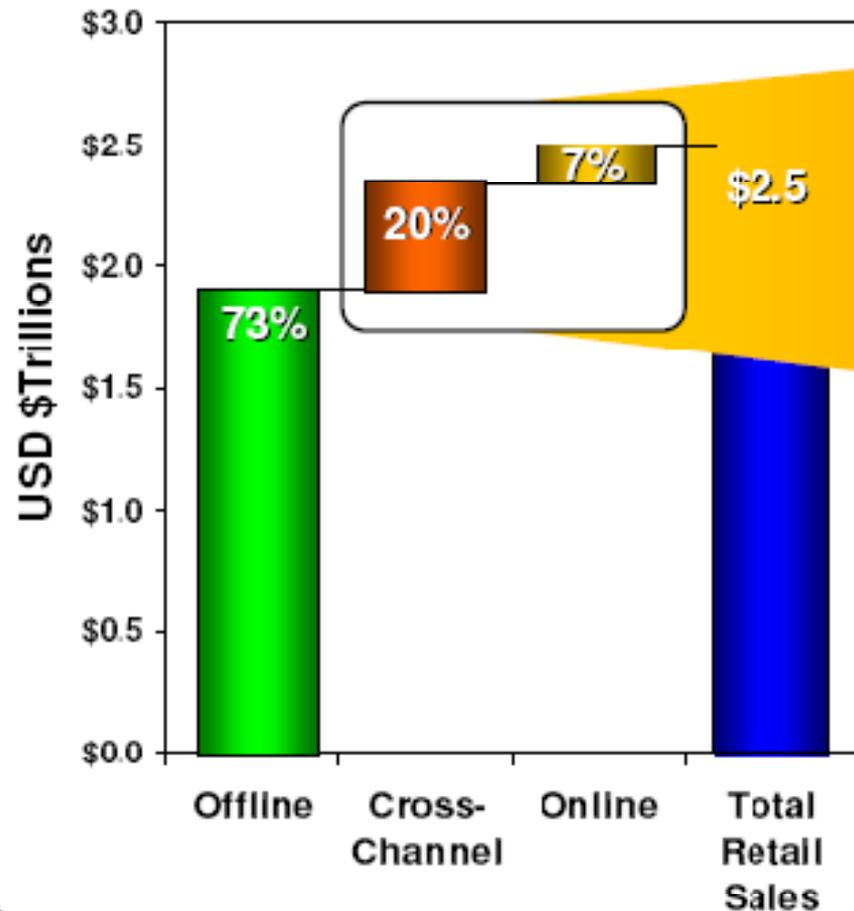


Mobile is a cross-channel enabler for customer self-service since it is present within every other channel experience

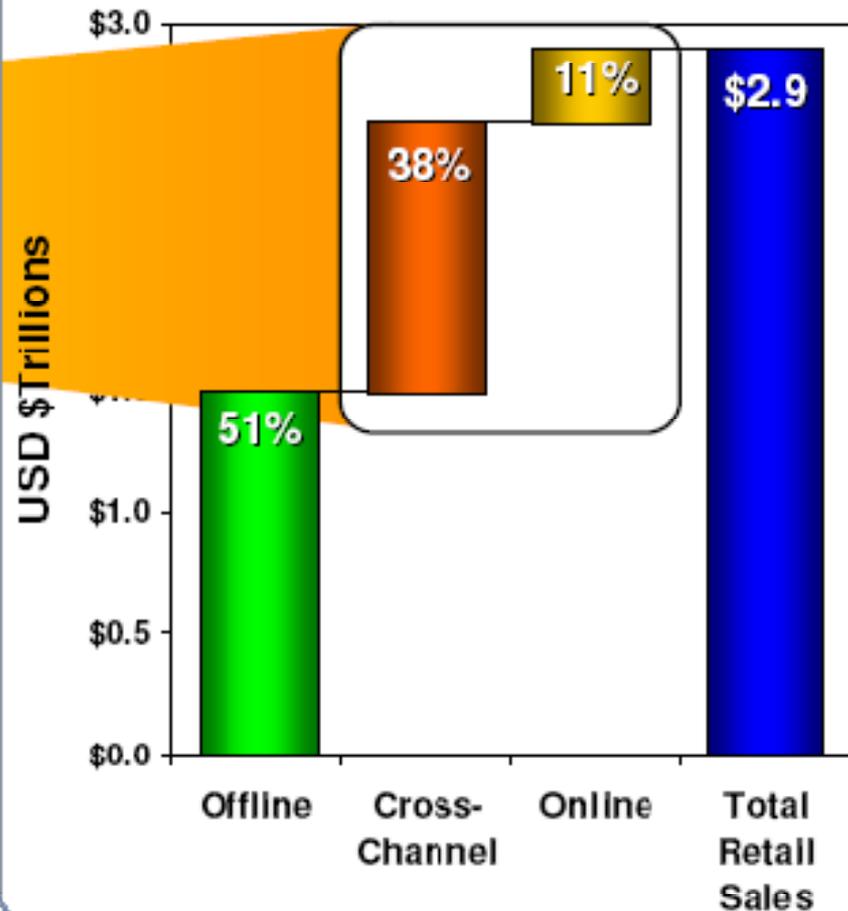


By 2012 nearly 40% of retail sales will be cross-channel sales

In 2007 Cross-Channel Shopping Accounted for \$510B or 20% of Total Retail Sales



By 2012 Cross-Channel Shopping will Account for 40% of Total Retail Sales



Source: Webinar titled "M-Commerce: The Gateway to Buy Anywhere, Fulfill Anywhere Commerce," by Escalate, Inc., March 5, 2009 and Forrester: "The Web's Impact on In-Store Sales; Forrester: US Retail e-Commerce Forecast 2006 to 2011"

Personalized mobile marketing and loyalty programs, with user defined, geo-, SIC-, MCC-, MID-, SKU- and UPC-based predictive modeling, sets the stage for product manufacturer sponsored payment network



Before the Transaction

Push functionality can deliver timely, relevant and exclusive offers defined and selected by the consumer



During the Transaction

Instantly trackable promotion tied to customer selected options and neural network profiling & mobile electronic transaction receipts with balances



After the Transaction

Predictive analytics using SIC, MCC, MID, UPC and SKU data increases rendering of relevant offers based on user selected criteria

Mobile marketing: Opt-In, user defined offer and/or marketing message tied to a user defined alert

Yin Yang of Mobile Self-Service, Marketing & Payments



User-defined
Opt-In Alert or
Reminder...
“Gift card
balance:
\$28.50...”

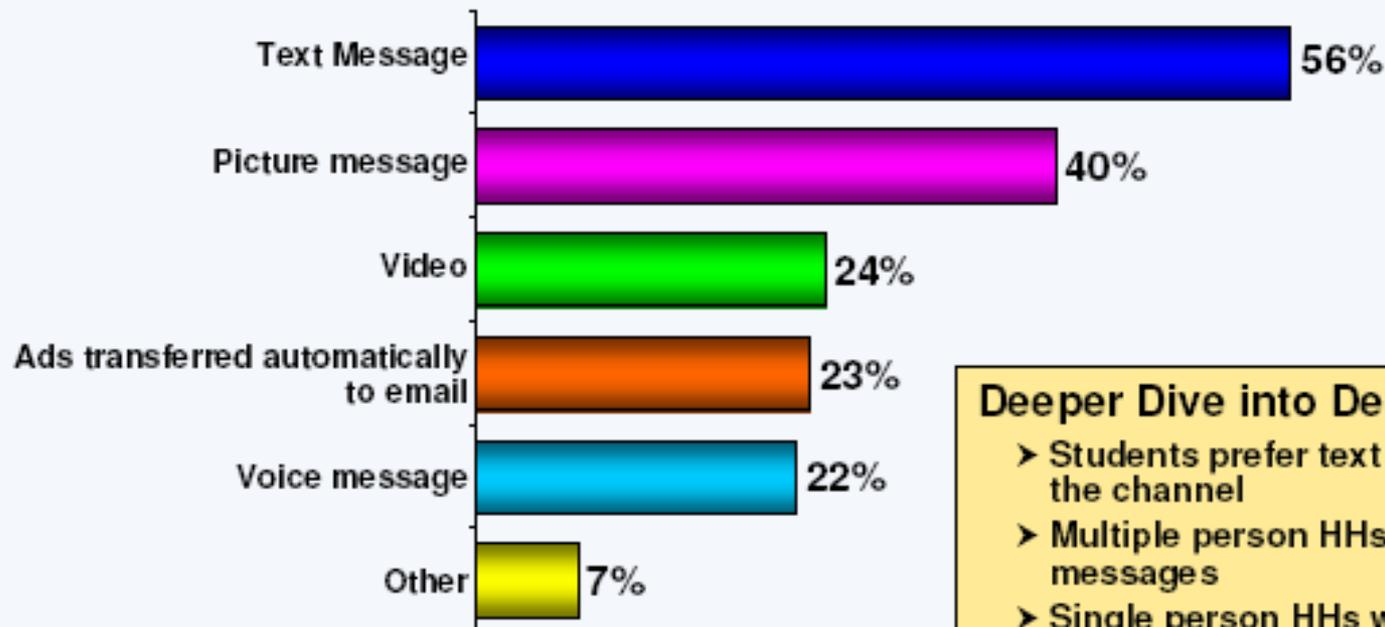
...Use your
gift card
today &
get 20%
off



Consumers prefer to receive mobile marketing messages via simple message service (SMS text) and multimedia message service (MMS Text with picture) and other cross channel opportunities as well

Media of Choice: Some Surprises!

Delivery Channel



Deeper Dive into Demographics:

- Students prefer text message as the channel
- Multiple person HHs prefer picture messages
- Single person HHs would like ads to be transferred automatically to the email

Base: At least somewhat interested to receive ads (n = 344)

Q: In which of the following ways would you like to receive an ad on your cell phone? Please select all that apply.

Source: Harris Interactive Study as reported by Grant Lenahan, Executive Director and Strategist, Service Delivery Solutions, Telcordia Technologies, Inc. at Billing and OSS Conference, Chicago, IL, April 29, 2008

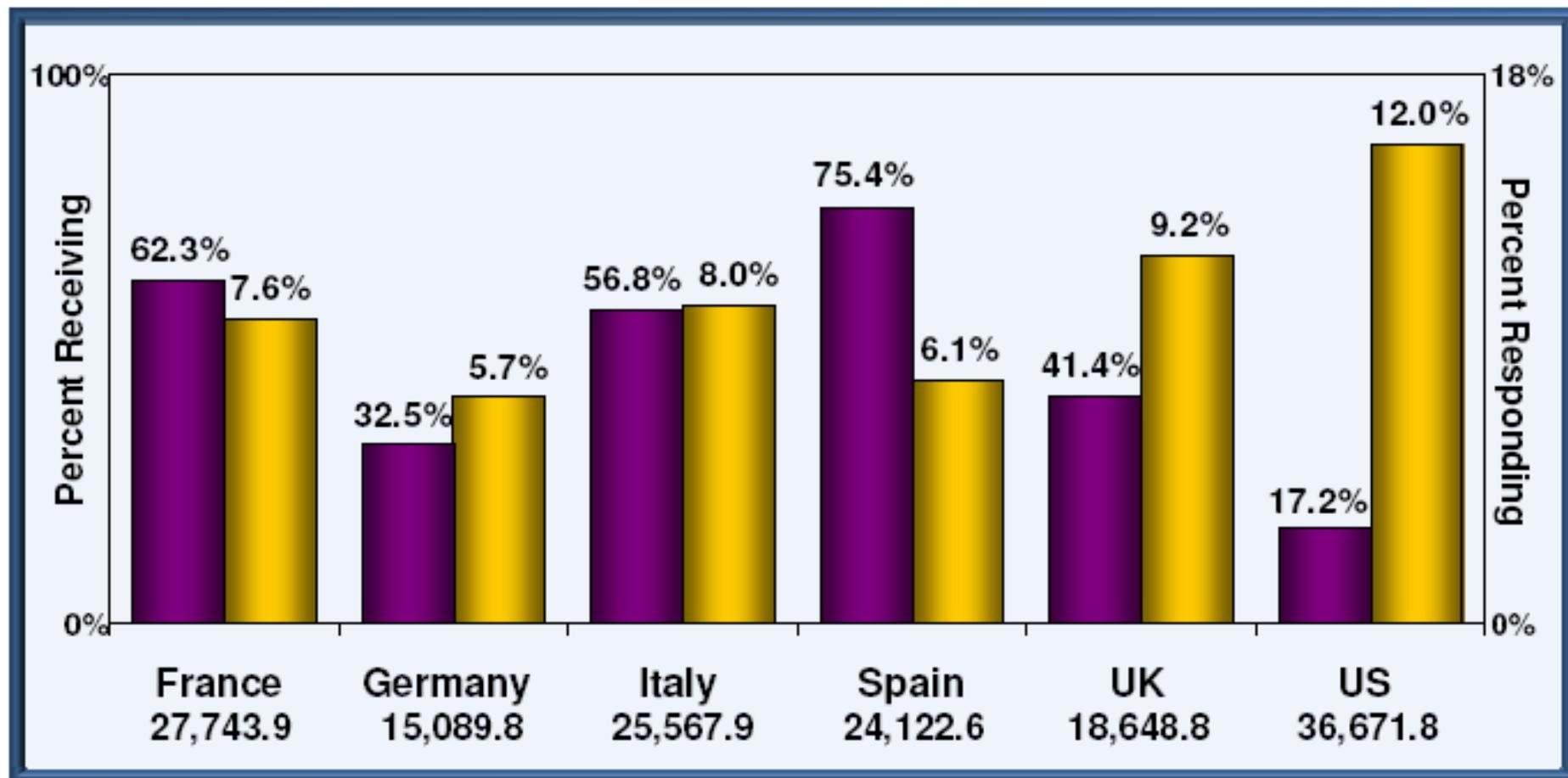
Mass marketing vs. user-defined mass customization

ANYTHING
Whatever

ANYTIME
Whenever

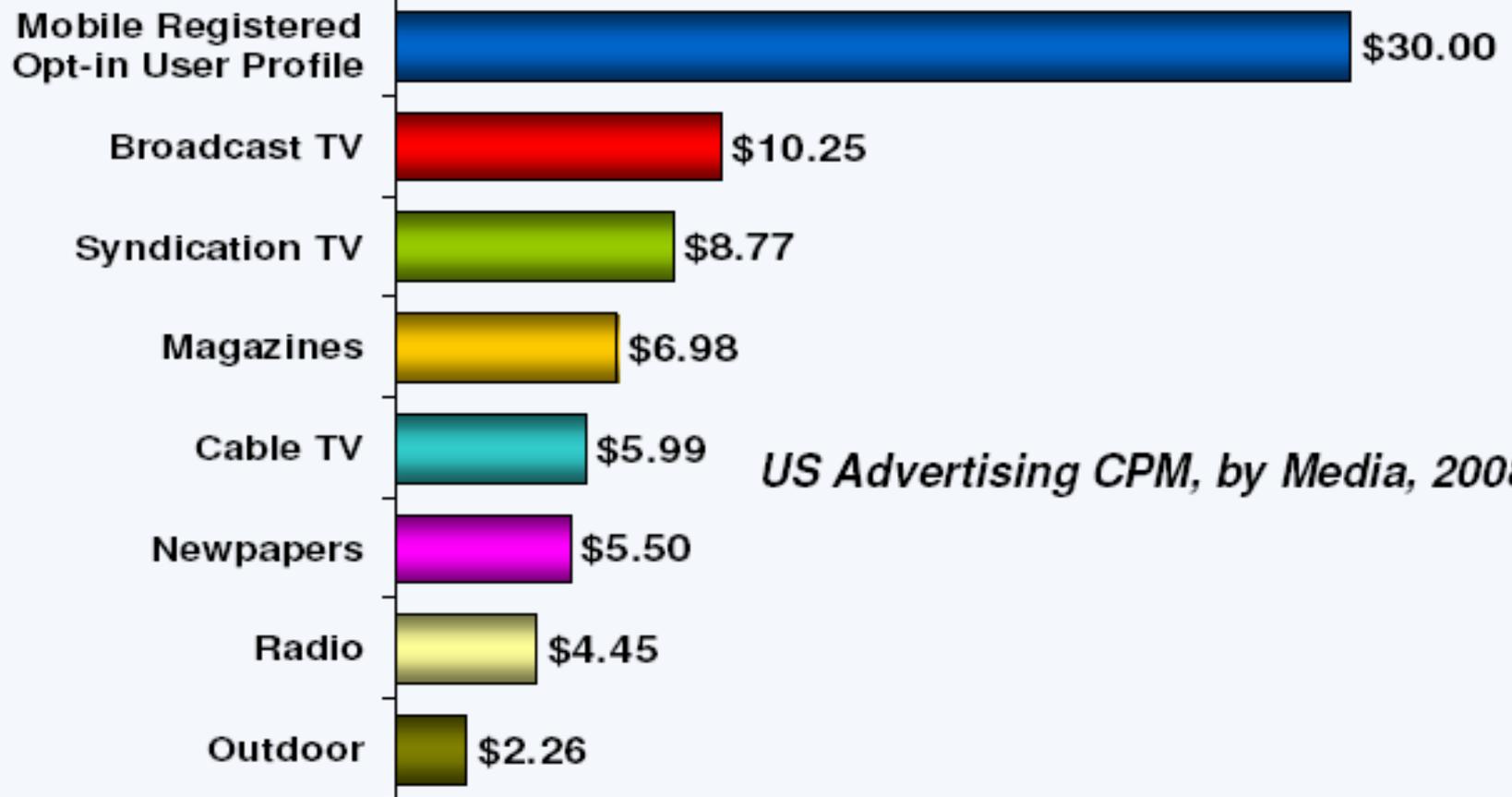
ANYWHERE
Wherever

**According to du Pre Gauntt, senior analyst at eMarketer:
 "The current response rates for mobile messaging campaigns blow
 competing mediums such as direct mail out of the water"**



**Source: "Email eMarketer Daily, December 6, 2007 citing Mobile Marketing Association (MMA), "2007 Mobile Attitude & Usage Study" conducted by Synovate, provided to eMarketer, November 16, 2007.*

Customers that opt-in to mobile marketing command highest rates



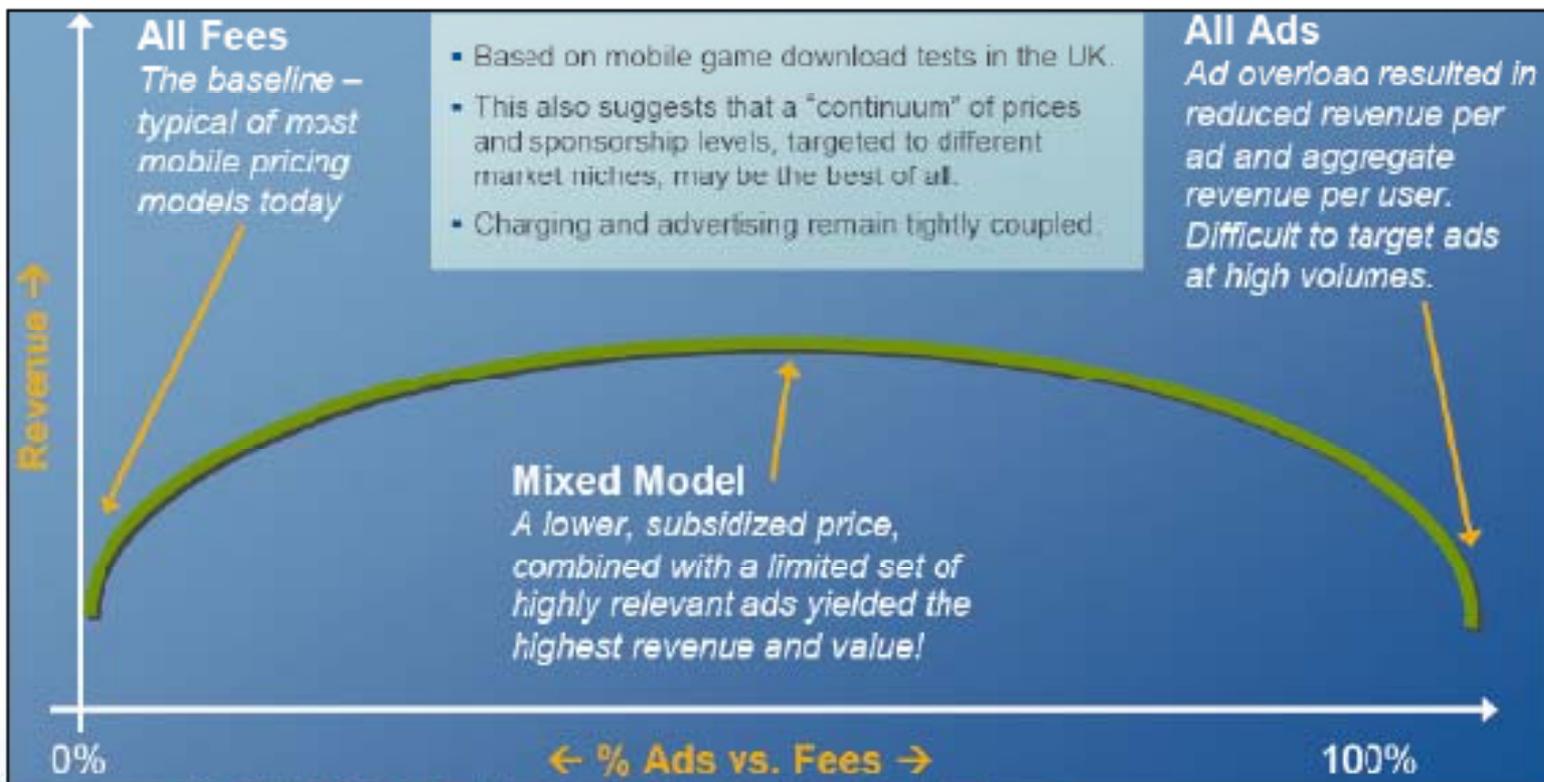
Source: Jefferies & Company, Media Dynamics, InterMedia Dimensions and company reports, "Snapshot of the Global Media Landscape," provided to eMarketer, February 2009. Rates for registered mobile users that opt-in to user defined marketing messages are based on Crone Consulting, LLC research and estimates.

*eMarketer projects that the global market for ad-supported mobile messaging will rise from \$1.5 billion in 2006 to \$12 billion by 2011**



*Source: eMarketer promotion of Mobile Messaging Report, November, 2007 citing Forst & Sullivan Open Source Push email & PIM for the Consumer Market commissioned by Funambol, July 19, 2007.
http://www.emarketer.com/Report.aspx?code=emarketer_2000432

Get free minutes on your cell phone with Virgin Mobile Sugar Mama*



SUGAR MAMA

EARN AIRTIME IN YOUR SPARE TIME

Need free minutes? Dial-up your Sugar Mama—the new way to earn airtime in your spare time.



Source: Presentation titled “Charging Ahead! with a Real-Time, Advertising and Policy-Driven Billing Models,” by Grant Lenahan, Executive Director and Strategist, Service Delivery Solutions, Telcorda Technologies, Inc. at Billing and OSS Conference, Chicago, IL, April 29, 2008.

Even though it is a multi-dependent market all new payment types start with “merchant acceptance” and Transit Agencies need to objectively evaluate their options from at least four dimensions

Customer Orientation:

Merchant-Centric
vs.
Carrier-Centric
vs.
Bank-Centric
vs.
Bank Processor Centric

Funding and Settlement:

Pay Later (Credit)
vs.
Pay Now (Debit)
vs.
Pay Before (Prepaid)

Mobile Payments Strategy

Mobile Payments Token:

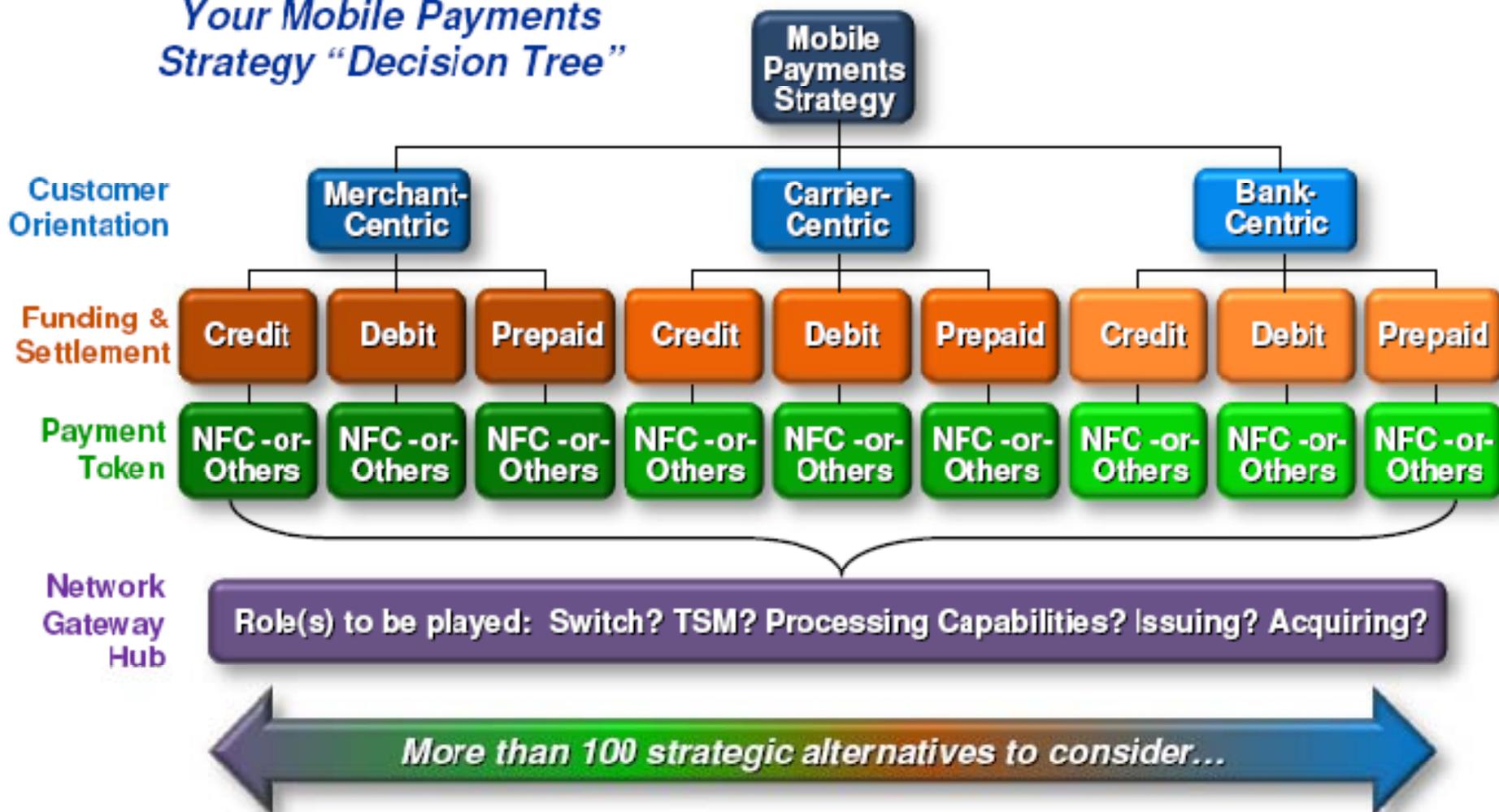
Near Field Communications (NFC)
vs.
SMS Code-Based
vs.
Bar Code or Other

Network Gateway Hub:

- Processing Capabilities
- Issuing
- Acquiring
- User defined alerts & opt-in two-way messaging

Impartial evaluation of strategic alternatives is complex, with 100+ paths to consider across at least these four dimensions

Your Mobile Payments Strategy "Decision Tree"

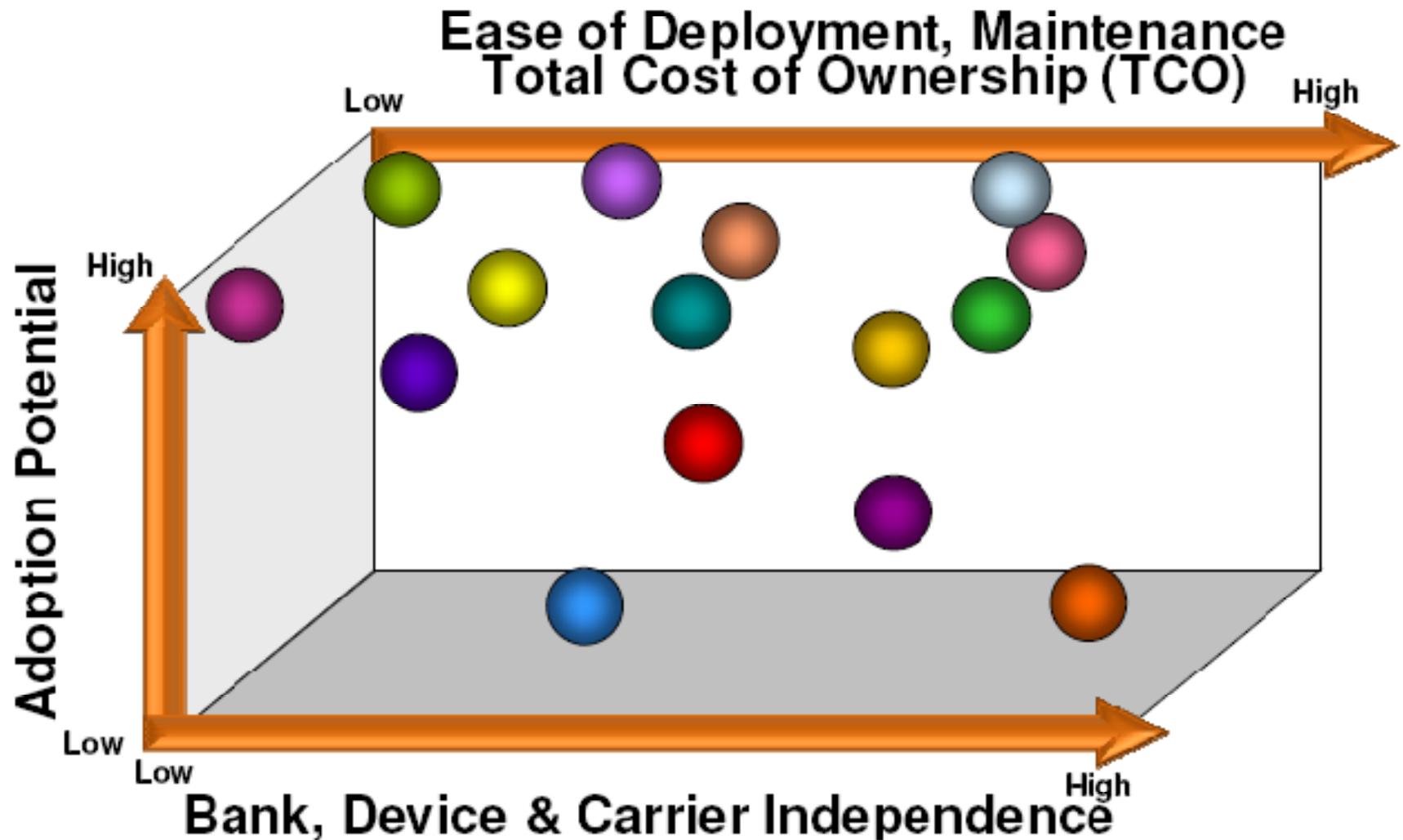


Crone Consulting's independent 10-step process for creating a leapfrog mobile commerce strategy and impartial ROI

Ten Steps to a Mobile Strategy:

1. Organize Cross-Discipline, Enterprise-Wide Team and Conduct Strategic Planning Session
2. Define Customer Self-Service (CSS) Scenarios, Potential Mobile Use Cases and Profile the Mobile Consumer (by merchant and consumer type)
3. Assess Competitive Environment and the Potential to Move or Lose Market Share with Mobile Functionality (customer self-service vs. payments vs. marketing)
4. Analyze and Assess the Viability of Each Emerging Mobile Channel for Each Major Wave: CSS, Payments and Opt-In two-way marketing
5. Define Mobile Functional Requirements, Evaluate and Score Mobile Channel Options
6. Objectively Evaluate Sourcing Options and Service Providers to Determine "Buy, Build or Buddy" Decision
7. Correlate Channel Options with Customer Profiles and Use Cases and Compare to Deployment Options and Suppliers
8. Prepare the Independent Business Case and Return on Investment (ROI) Analysis
9. Define and Gain Approval for Mobile Strategy
10. Mobilize to Implement

Not all mobile channels and payment types are created equal, independently comparing the pros, cons, risks and costs will help you objectively prioritize the strategic options



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