

Toronto Edition!



DELIVERING BI FOR MOBILE USERS

TDWI Toronto Chapter
March 1, 2012

It's Just a Device but the User is New



DELIVERING BI FOR MOBILE USERS

Abstract

In this course we will examine the current trends for mobile platforms and devices competing in today's market and learn the impact of selecting them. While we typically have a good understanding of delivering BI capabilities, the distinctions between the desktop and devices must be understood to deliver the BI capability to the proper platform and mode of the user.

Therefore, mobile users and their behaviors must be defined. Traditional BI/DW architectures can be adapted while other architectures such as cloud computing, software-as-a-service, and virtualization will play bigger roles. Most profound will be the paradigm shift to service-oriented architecture, semantic layer, and the new BI app store. We will also examine the required technology infrastructure.

You Will Learn

- Wireless technologies in use today
- Mobile platforms and devices
- Mobile users' behavior for effective BI

Geared Towards

- BI directors and managers, architects, developers, and enthusiasts

Principal and Founder, Radiant Advisors

JOHN O'BRIEN



With over 20 years of experience delivering value through data warehousing and BI programs, John O'Brien's unique perspective comes from the combination of his roles as a practitioner, consultant, and vendor in the BI industry. His knowledge in designing, building, and growing enterprise BI systems and teams brings real world insights to each role and phase within a BI program.

Today, through Radiant Advisors John provides research and advisory services that guide companies in meeting the demands of next generation information management, architecture, and emerging technologies.

Instructor 10+ years

As a recognized thought leader in BI, John has been publishing articles and presenting at conferences in North America and Europe for the past 10 years, including The Data Warehousing Institute where he has been invited as one of TDWI's Best Practices judges, Executive Summit presenters and expert panel participants. John has also developed and presented many of his own courses that now comprise the initial Radiant Advisors Learning Catalog.

Experience

In 2005, John co-founded and became CTO of a venture capital backed data warehouse appliance company that has many global production customers in excess hundreds of terabytes online and loading near real-time. As CTO, John's primary role was to focus product development and BI market strategy.

Education

B.S. in Mechanical Engineering from California State University with an emphasis in control systems and instrumentation. An Executive M.B.A. from University of Colorado. Certified Business Intelligence Professional (CBIP) since 2005 with mastery levels in Leadership and Administration, Database Administration and Business Intelligence.





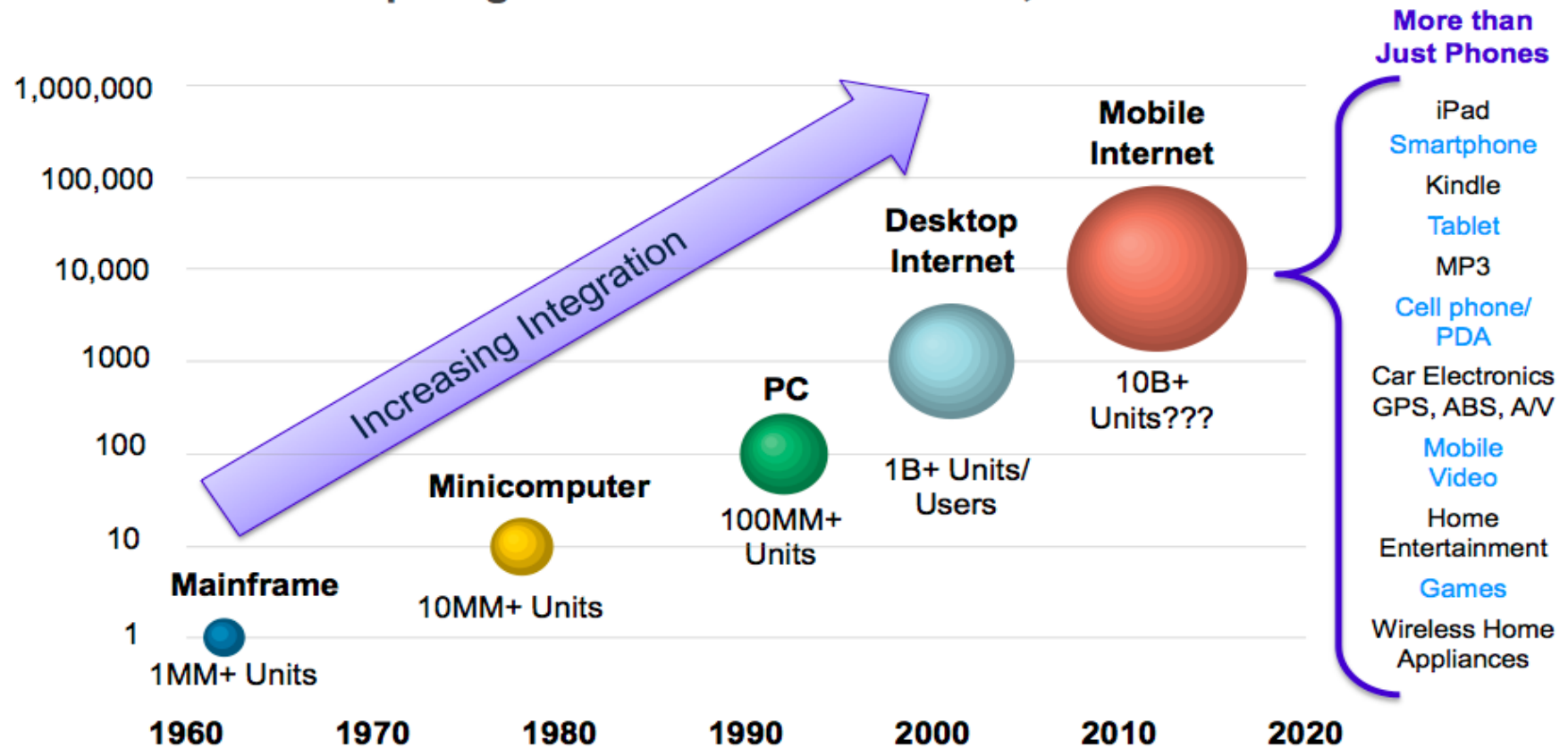
Observations, Trends, and Power Plays

THE MARKET UPDATE

The Market Update – Observations

NEXT GENERATION IN COMPUTING

Computing Growth Drivers Over Time, 1960-2020E

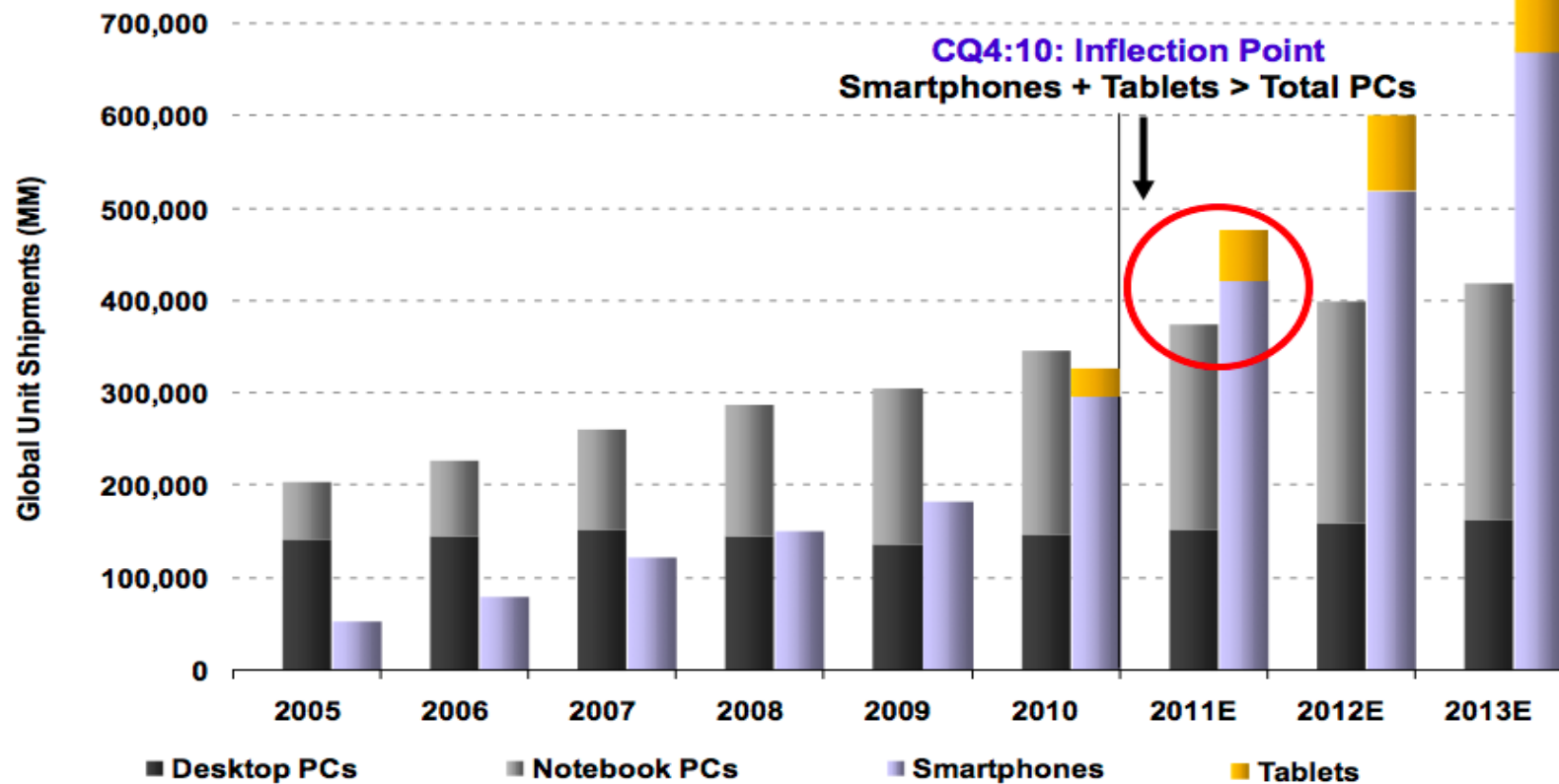


Note: PC installed base reached 100MM in 1993, cellphone/Internet users reached 1B in 2002/2005 respectively;
Source: ITU, Mark Lipacis, Morgan Stanley Research.

The Market Update – Observations

MORE MOBILE SHIPMENTS THAN PCS

Global Unit Shipments of Desktop PCs + Notebook PCs vs. Smartphones + Tablets, 2005-2013E



Note: Notebook PCs include Netbooks. Source: Katy Huberty, Ehud Gelblum, Morgan Stanley Research.
Data and Estimates as of 2/11

The Market Update – Observations

MOBILE APPS SURPASS WEB USAGE

U.S. Mobile Apps vs. Web Consumption, Minutes per Day



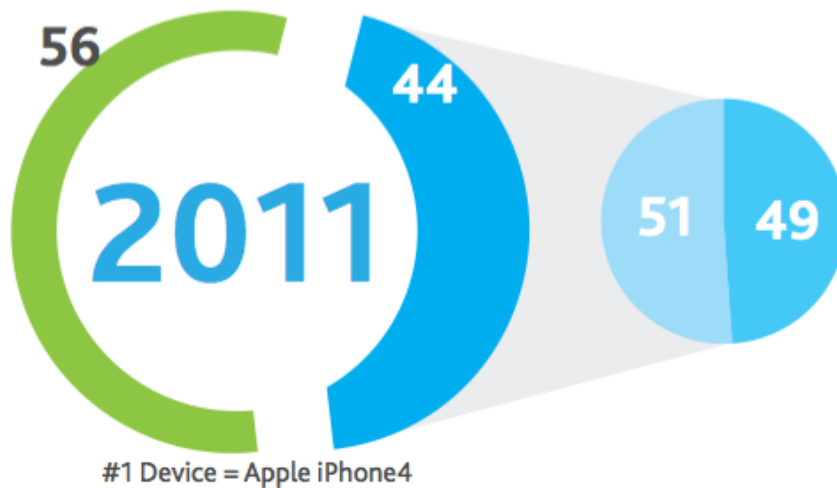
Sources: comScore, Alexa, Flurry Analytics

The Market Update – Trends

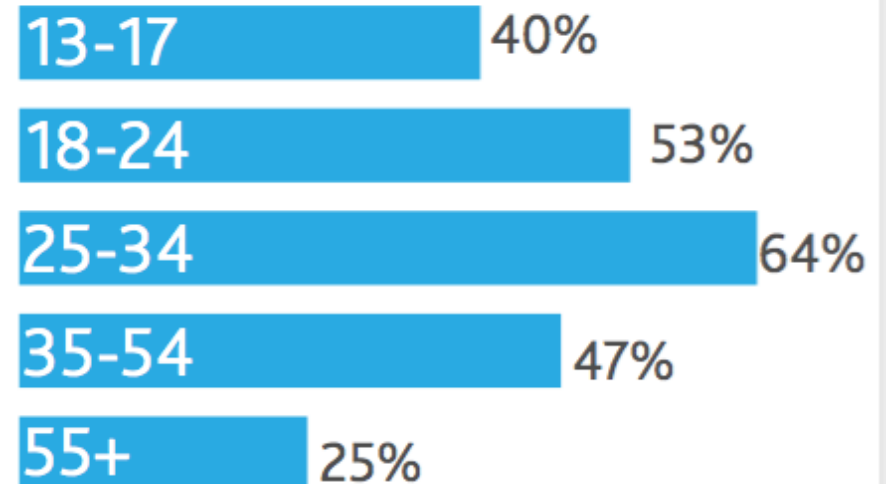
SMARTPHONE ADOPTION

Will we carry 1 or 2 smart phones to work?

Smartphone penetration 2011
Aug - Oct, 2011, U.S. Mobile Insights, National



PENETRATION BY AGE



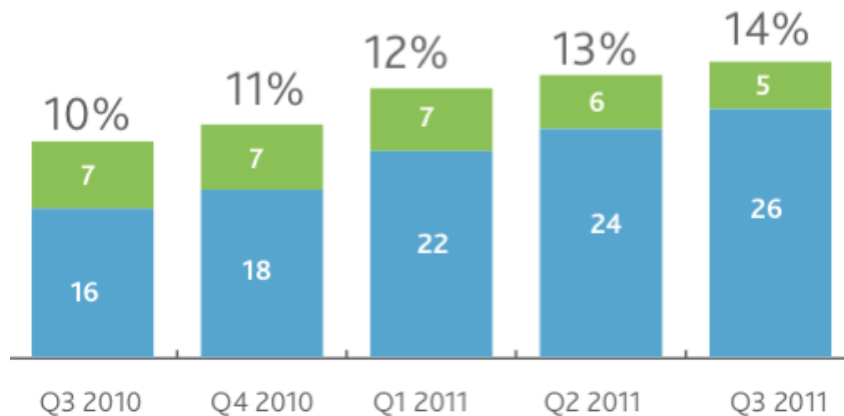
The Market Update – Trends

RICH MEDIA ADOPTION

MOBILE MEDIA REPORT Q3 2011

U.S. mobile video viewers (in millions)

Q3 2011, U.S. Mobile Video Survey



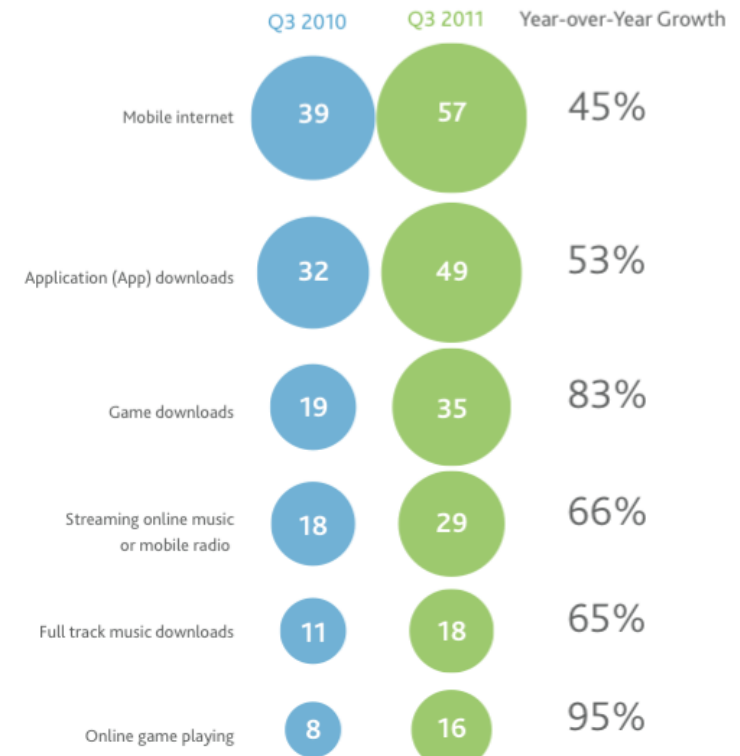
Video gains acceptance

nielsen

user modes of interaction

Smartphone subscribers engaged in rich media activities other than mobile video (in millions)

Q3 2011, Last 30 Days, U.S. Mobile Insights, National



 Radiant Advisors



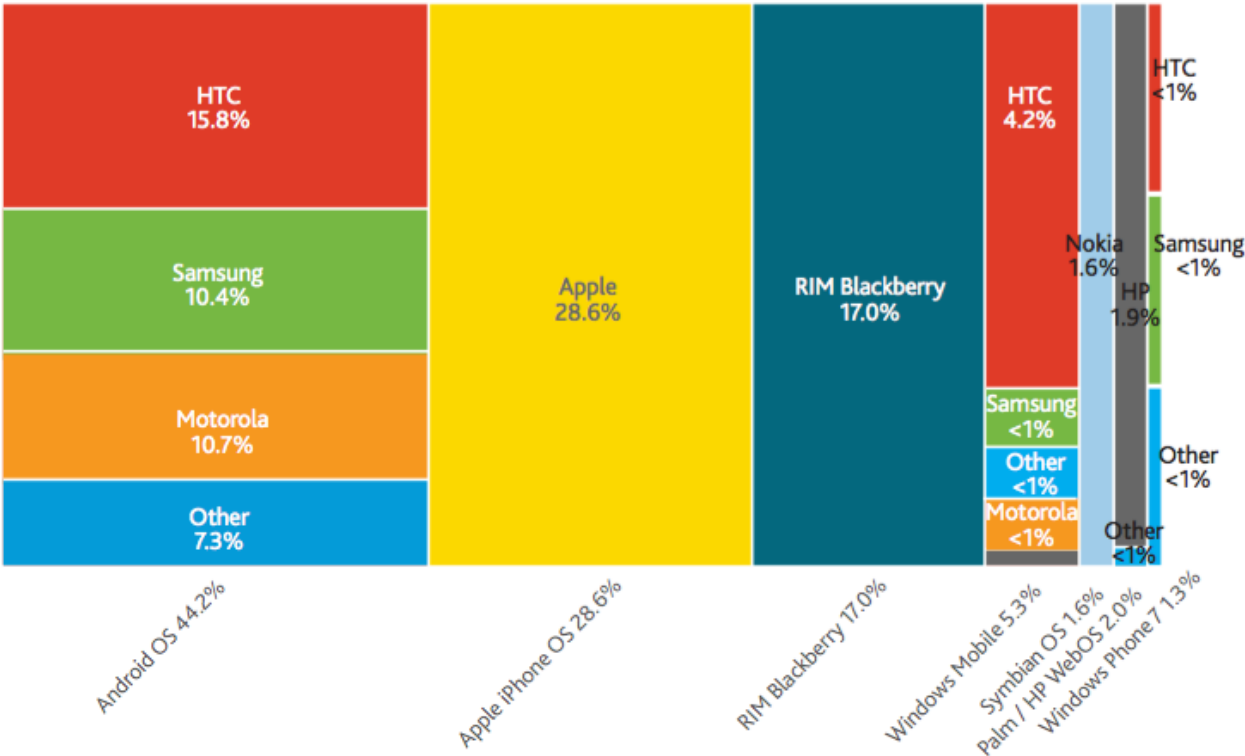
The Market Update – Trends

PLATFORM MARKET SHARES

Manufacturer operating system share-smartphones

Aug-Oct 2011, U.S. Mobile Insights, postpaid mobile subscribers

MOBILE MEDIA REPORT Q3 2011



RIM had the lead in 2009

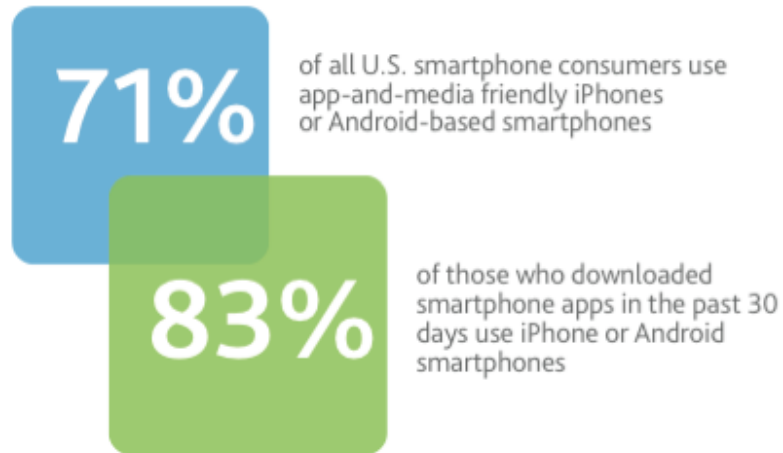


The Market Update – Trends

DOWNLOADING APPS

MOBILE MEDIA REPORT Q3 2011

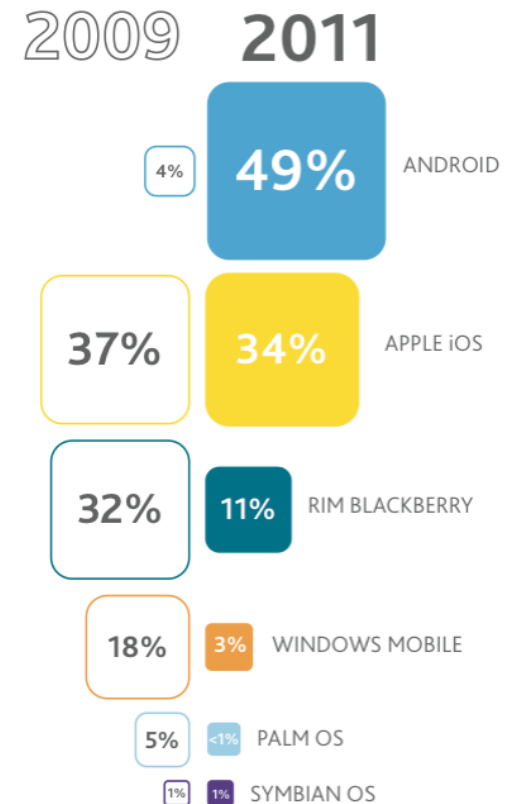
Q3 2011, Nielsen Mobile Applications Playbook



*App downloads are synonymous
with smart phones today*

Percentage of smartphone owners who have downloaded an app in the last 30 days

Q3 2011, Nielsen Mobile Applications Playbook



nielsen

The Market Update – Trends

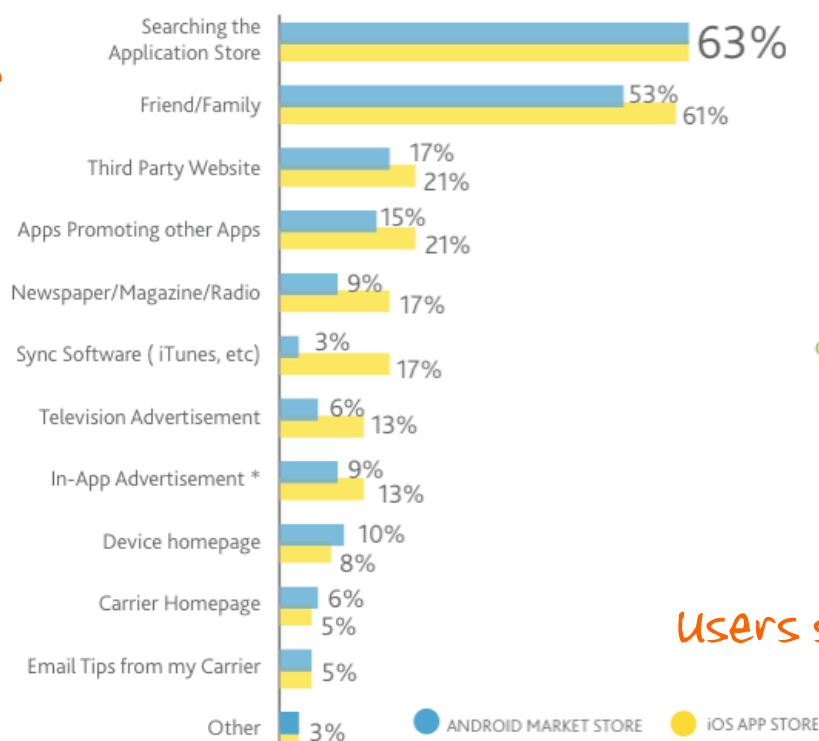
APP DISCOVERY AND USAGE

MOBILE MEDIA REPORT Q3 2011

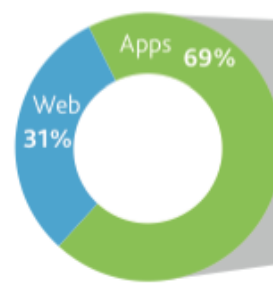
Searchable and Word of Mouth

HOW DO APPLICATION DOWNLOADERS DISCOVER NEW APPS?

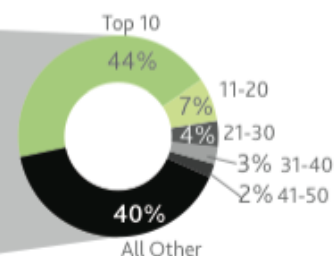
Q3 2011, Nielsen Mobile Applications Playbook, Past 30 Day App Downloaders



Proportion of time spent on web/apps—Android



Distribution of time spent in apps—Android



September 2011, Nielsen Smartphone Analytics, Device Metering Data

Of the 69 percent of the time spent on Android applications, users spend 53 percent interacting within those in the top 50.

70 / 30 Apps to Web

users search and use apps mostly

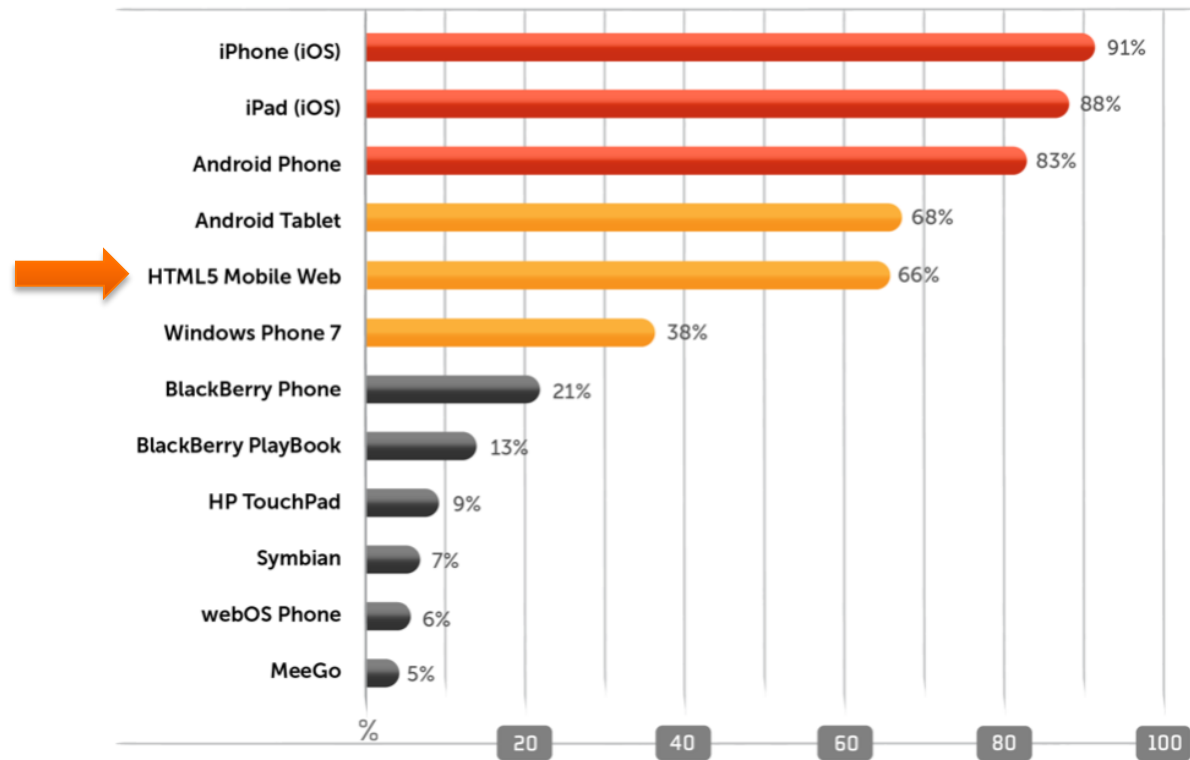
nielsen

The Market Update – Power Plays

DEVELOPERS' PREFERENCE

'Very interested' in developing for each platform

Windows Phone 7 makes its move



N=1,798 responses

Source: Appcelerator / IDC - 11/2011

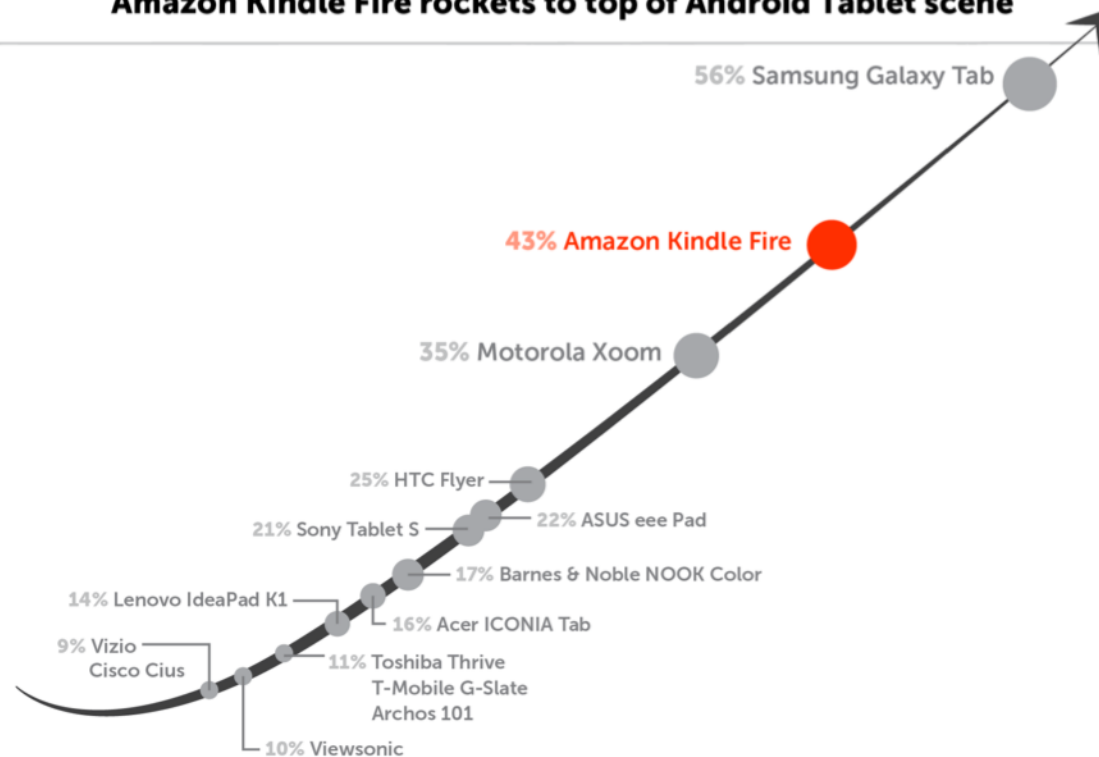


The Market Update – Power Plays

DEVELOPERS' CHALLENGES

How interested are you in building apps for the following Android devices?

Amazon Kindle Fire rockets to top of Android Tablet scene



N=1,627 responses

Source: Appcelerator / IDC - 11/2011



The Market Update – Power Plays

TDWI MOBILE BI AND ANALYTICS

For smartphones or tablets that users are implementing for BI and analytics, which mobile device operating environments are in use? (Please select all that apply.)

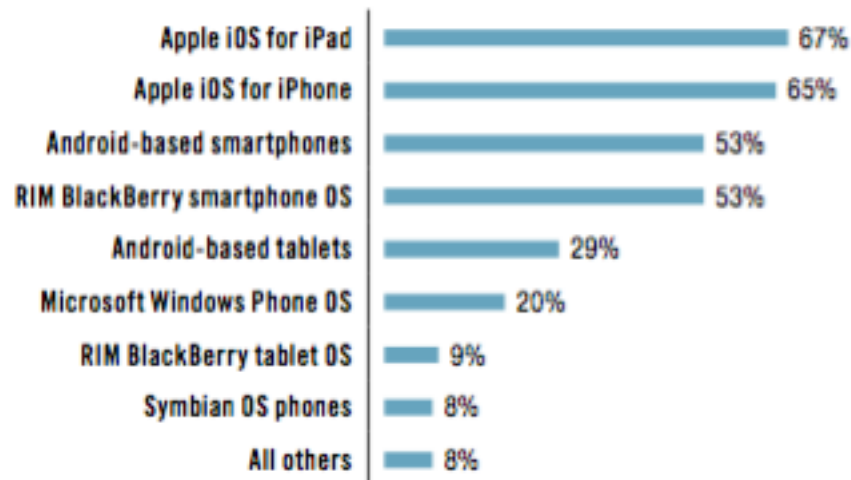


Figure 1. Based on 1,250 responses from 397 respondents; a little over 3 responses per respondent, on average.

Web Browser with HTML5 is also serious consideration

The Market Update – Power Plays

TDWI MOBILE BI AND ANALYTICS

Which of the following application systems are users currently implementing, or are planning to implement, natively on mobile devices or remotely via the Web?

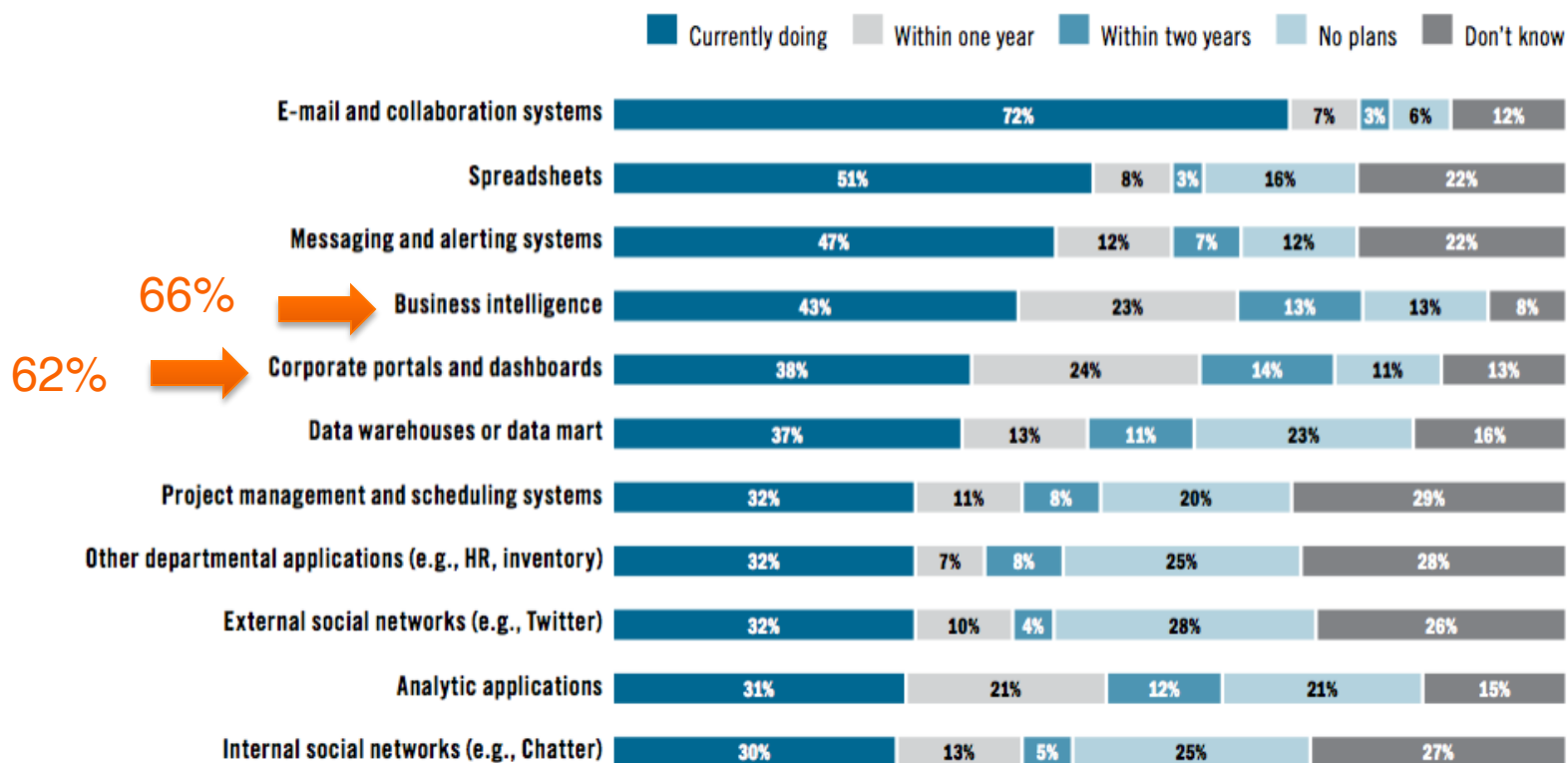


Figure 3. Based on answers from 465 respondents, each of whom had to provide at least one answer per category.

The Market Update – Power Plays

TDWI MOBILE BI AND ANALYTICS

What are the information access and management benefits that your organization seeks to achieve from implementing BI and analytics on mobile devices? (Please select all that apply.)

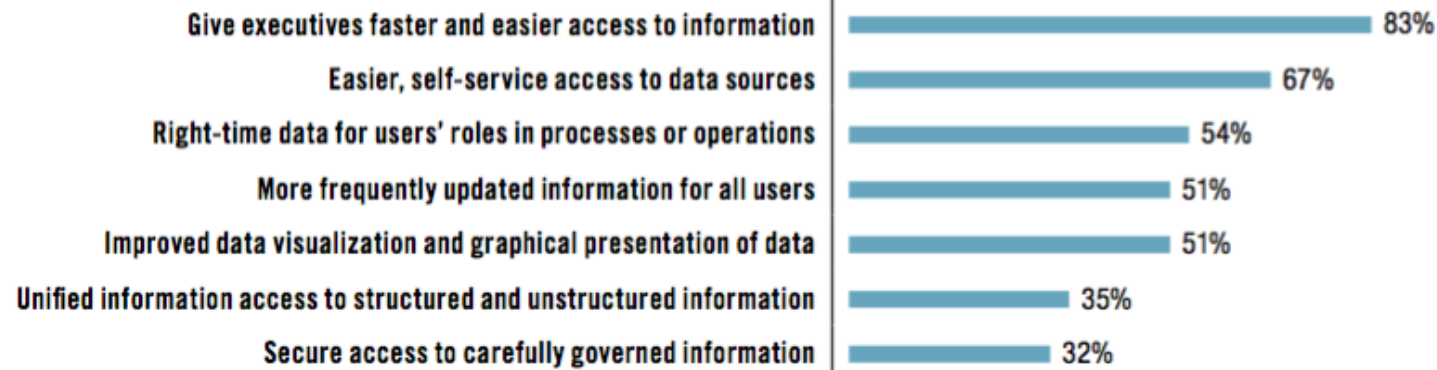


Figure 5. Based on 1,527 responses from 406 respondents; about 4 responses per respondent, on average.



Hint: It's You and Me...

WHO IS THE MOBILE USER?

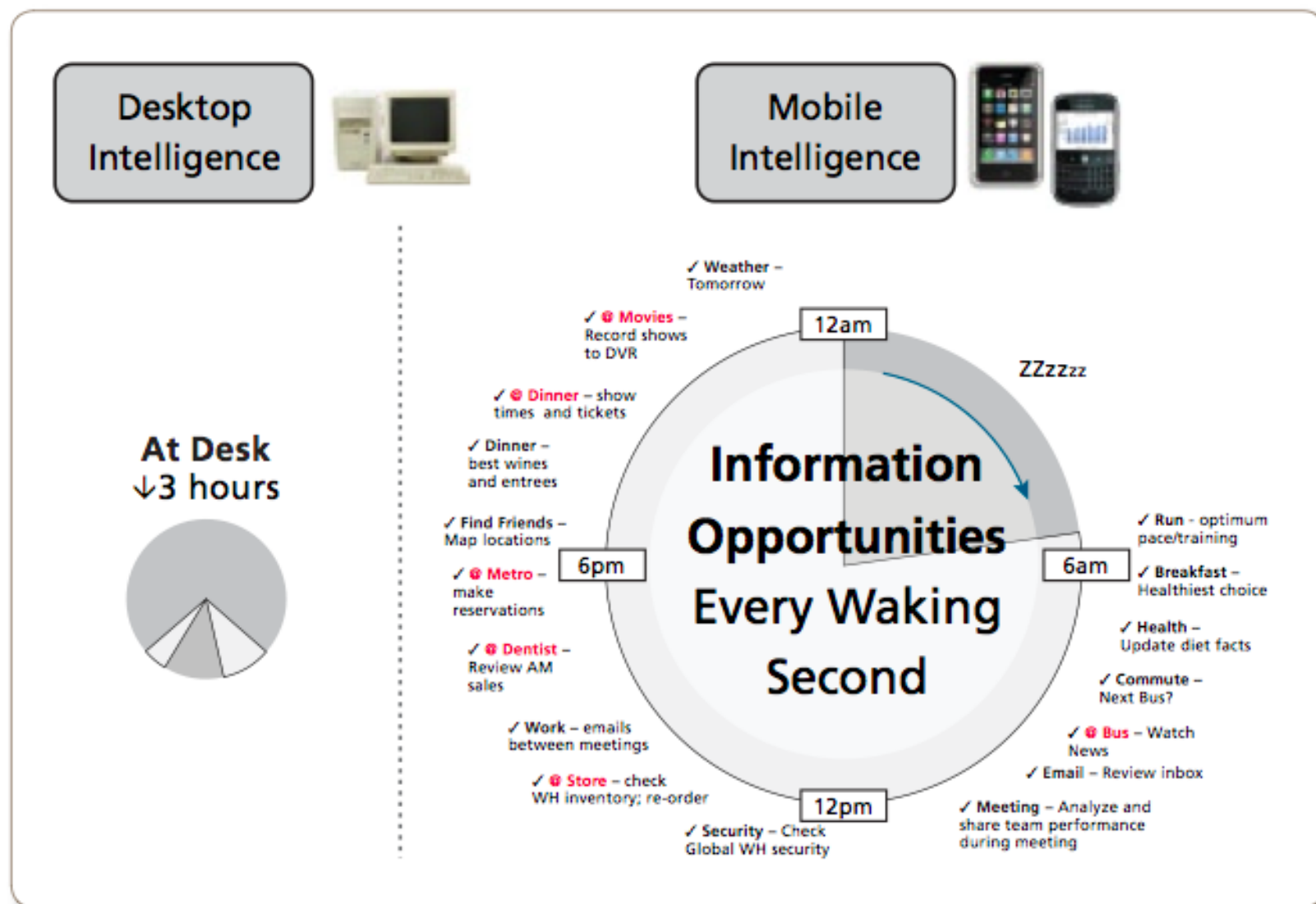


Fig 4. Mobile Intelligence expands information opportunities



The Mobile User

WHAT CAN A MOBILE USER DO?

- It's **NOT** a phone, the phone is an **APP** on the device
- **Limited** typing ability
- Collects **quick data**: photos, video, QR, short text
- UI takes the **whole** device screen *(multi-tasking is available in new devices)*
- **Short** attention span & interrupt prone *(not like closing your office door)*
- Not for “working” – for getting **answers**

The Mobile User

WHAT DOES A MOBILE USER WANT?



I need...

- Something done
- A specific answer
- Simple and fast

Make it...

- Manage content arrangement
- Easy to work with



The Mobile User

“PIVOT” USER EXPERIENCE

- Centered around “ME” and “MY” Relationships
- Shift info needs as quickly as I think
- My relationships to other people (business & personal)
- My location and locations of people & things
- My information needs
- I’ m right here and now mentality

What is the average time per App or Need?

The Mobile User DEVICES ARE DIFFERENT

- ✓ Amazingly sharp displays and resolution
- ✓ GPS
- ✓ Accelerometer
- ✓ Instant-On
- ✓ Cameras and Video
- ✓ Always Connected / Push

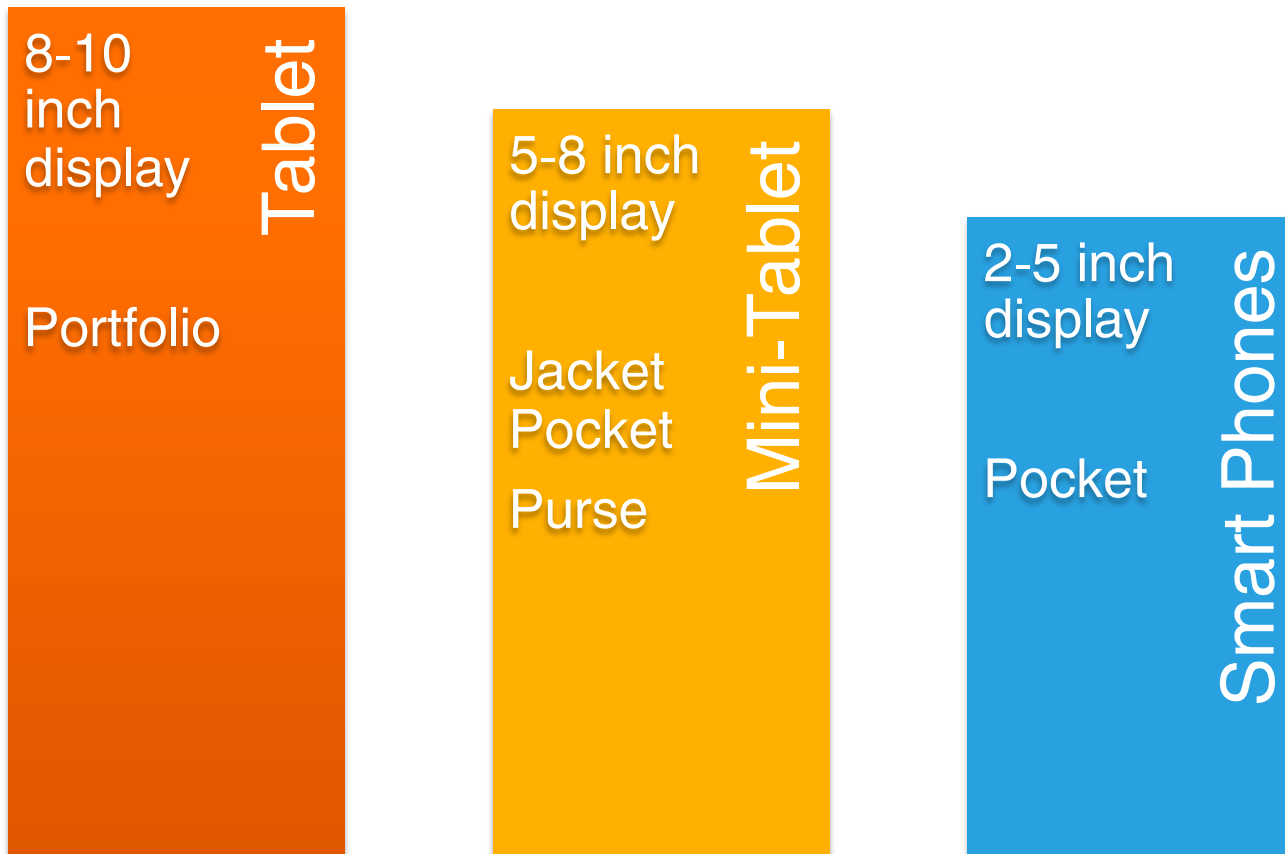


- ✓ Small display area
- ✓ Touch interface new
- ✓ Small storage
- ✓ Connections not always available or strong
- ✓ Battery life shorter
- ✓ I need glasses...



Device Categories

MOBILE DEVICE FORM FACTORS





The Mobile User

USAGE BY DEVICE TYPE

Mobile Device	BI Authoring	BI Consumption	Share, Collaborate	Present to others	Act on BI
Smartphones	No	Yes (Apps, Alerts, KPIs, Recommendations)	Yes (Email, SMS, post)	No	Yes
Tablets	Yes (re-authoring, summarize, republish)	Yes	Yes	Yes	Yes
Workstations	Yes	Yes	Yes	Yes	Yes



The Mobile User BI IN THE APP WORLD

- Apps must represent information **needs**
- Information **delivery tied** to Web Services/SOA
- Must be fast means data service **must be fast**
 - Database technologies or data models
- Remember **more and smaller** Apps are better
- **No longer** “One Size Fits All” BI Designs

*Know your target
device!
iPad, tablet, phone...*



The Mobile User BI APPS

Maximize the Screen

- Very few charts, graphs per screen
- “Next page” different charts for dashboards
- Leverage Button Bar up to 3 or 4

Enable Intuitive Touch Gestures

- Swipe
- Pinch
- Tap
- Drag

Enable the Accelerometer

- Shake
- Tilt
- Auto-Rotate

The Mobile User

REMOTE DESKTOP ACCESS FROM IPAD

LogMeIn –for accessing Macs

- Transfer files
- Print,
- Sharing

DesktopDirect – for accessing Windows PC

AirDisplay – using iPad as a second monitor



Changing Mobile APPS VS HTML



compatibility:

1. Apple Safari
2. BlackBerry OS
3. Android 4
4. Windows (far behind)

- HTML5 allows the Browser to be the single App needed on a platform
- Apps are coded and downloaded via controlled App Stores
- HTML5 brings many features including:
 - Video/media tags that don't require plug-ins
 - JavaScript web content stored locally and offline
 - CSS3 for fonts on webpages

If a platform doesn't have a strong set of third-party apps available, consumer adoption of the platform becomes a greater challenge.

Changing Mobile

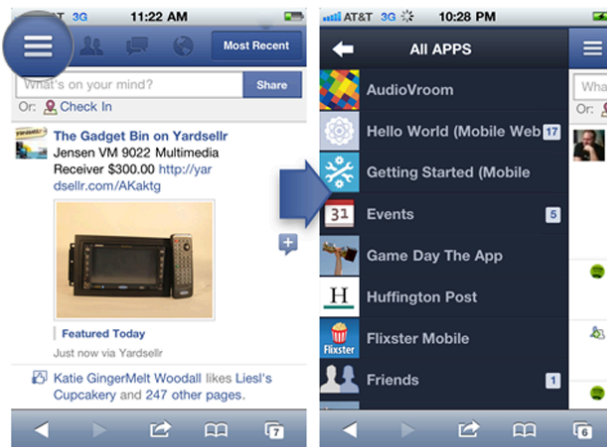
NO ADOBE MOBILE FLASH



Adobe's mobile solutions will now focus on application development with Flex and Air through its acquisition of Nitobi, makers of PhoneGap

- Flash Player 11.1 released into the Android Market, fulfilling its promise to support Flash on Ice Cream Sandwich.
- Adobe is finally burying mobile Flash standard
- Flash Player update will only be available to users with Ice Cream Sandwich devices

Changing Mobile FACEBOOK “SPARTAN”

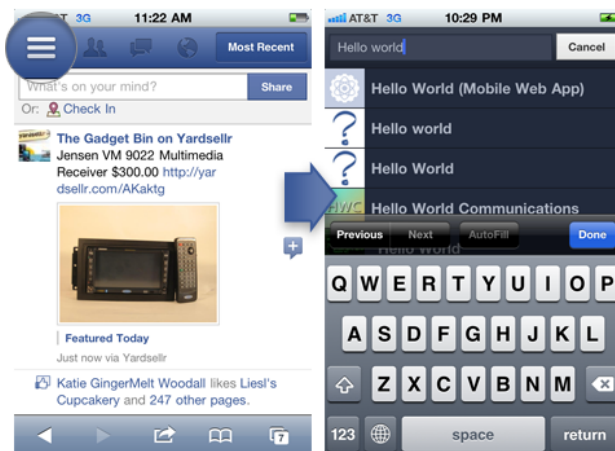


Looks like an “App”

Works like an “App”

But it's HTML5

And not controlled by App Stores



Deployment is most challenging

HTML5 Browsers compatibility

Java script performance or CSS

Changing Mobile LOCAL OR CLOUD

connect to
your desktop in
the cloud!

OS independent
with virtualization
software



iPad connected to Windows7 desktop via Citrix

Changing Mobile

THE QR: QUICK RESPONSE CODE

- 2-D matrix barcode
- Created by Toyota subsidiary Denso-Wave in 1994
- Mobile tagging:
 - vCards (business cards)
 - URI, URLs
 - Email addresses
 - Text messages
 - Calendar events





Changing Mobile

NFC – NEAR FIELD COMMUNICATION

- Short range wireless technology
- Mobile payments, Mobile wallet
- Some devices are shipping with it
 - RIM's BlackBerry OS 7 devices
 - Galaxy Nexus and other Android devices
- Android 4 – share URLs, contact info via “bump”

Will Apple support NFC vs low-power Bluetooth?

(already in iPhone 4s)



Security

MOBILE DATA MANAGEMENT

Manages the **data** it provisions

Device wide access policies (password requirements & remote lock)

- BlackBerry Enterprise Server (BES)
- Microsoft Exchange (via Exchange ActiveSync protocol)
- Third-party MDM utilities
 - Good Technology
 - MobileIron
 - Trellia
- HTML App containers via policies – Antennae Software
- Puts HTML apps in a virtual box on iPhone or Android (like Citrix)
- Separates personal and work apps and data
- Volt is the enterprise browser



Security

MOBILE APPLICATION MANAGEMENT

Managing native **apps** directly via policies

AppCentral and AppGuard for iOS and Android

- Add code to your app using AppCentral policy API and provides listener function
- Example: Restricting usage to specific wi-fi access points
- Example: Zero out app and data if permissions revoked
- Listener suggests app is active/foreground then checks policies

Application Management is embedded in the App and not the device



Security

CONSUMERIZATION OF IT

Bring-Your-Own-Device

- More and more people are personally investing in their own device of choice to work and bringing them to work
- By 2014, in fact, Gartner predicts that 90 percent of organizations will support corporate applications on consumer devices
- In fact, by 2014 some 80 percent of professionals will use at least two personal devices to access corporate systems and data, according to Gartner research
- Instead of command and control, IT needs to enable secure network access for any device, while controlling risk
- Visibility – discover, classify and set network access policies based on device risk profile



Changing Faster than We Can Keep Track of...

VENDOR PLATFORMS AND TOOLS TODAY



Vendor Platforms

OS PLATFORMS

Apple iOS 5

- Leader in 2012
- Apple ecosystem
- Siri voice interface
- Device compatibility
- iPhone 5 in 2012

Google Android 4

- “Ice Cream Sandwich”
- Same OS all devices
- Better Security
- More gestures
- Already LTE / 4G

Windows 7.5

- Mango
- Metro interface
- Intuitive but lots of scrolling

BlackBerry OS7

- OS10 in 2012
- BBX based on QNX
- Best security and management
- “last stand”?

HP WebOS 3

- Moves Open Source
- TouchPad mediocre hardware
- Lack of HP strategy
- Requires ecosystem

Amazon Kindle

- Android based
- Document based approach
- Publishing

Vendor Platforms

APPLE iOS 5 FAMILY

iPhone 3GS, 4, 4S

iPad2 Wi-Fi, 3G

iPod Touch



Vendor Platforms

GOOGLE ANDROID

HTC Thunderbolt 4G



Google Android
"Droid" OS on
different
manufacturers:



Samsung Galaxy Nexus



LG Optimus 2x



Samsung Galaxy Tab 7.7/10



Motorola Droid Bionic

Vendor Platforms

RESEARCH IN MOTION (RIM) BLACKBERRY

BlackBerry OS 7

BlackBerry Tablet OS
(QNX Software Systems acquisition)



**BlackBerry®
Bold™
9900/9930**

**BlackBerry®
Bold™
9790**

**BlackBerry®
Torch™
9850/9860**

**BlackBerry®
Torch™
9810**

**BlackBerry®
Curve™
9380**

**BlackBerry®
Curve™
9350/9360/9370**



Vendor Platforms

WINDOWS METRO

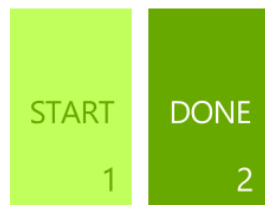
Glass Principle:



Metro Principle: Fierce Reduction



"**Fierce Reduction** is not only about making clean UIs but also, and first, about simplifying the application flow."



Windows Phone Design Principles:

- Light, Clean, Open, Fast (Fierce Reduction)
- Content, not Chrome
- Typography
- Motion
- Authentically Digital

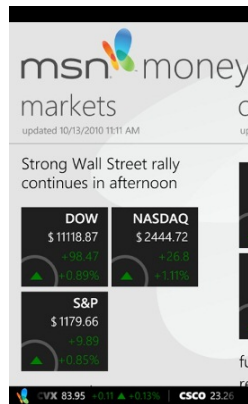
The Metro Design Principles are the pillars (usually abstract concepts) that guide the creation of experiences for Windows Phone.

The Metro Design Language is a set of concrete user interaction, visual design, motion and application flow elements and rules.

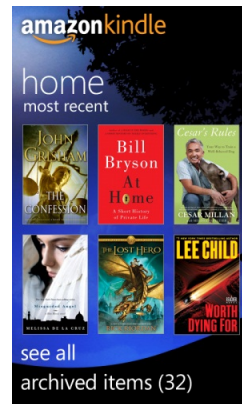
Vendor Platforms

WINDOWS METRO

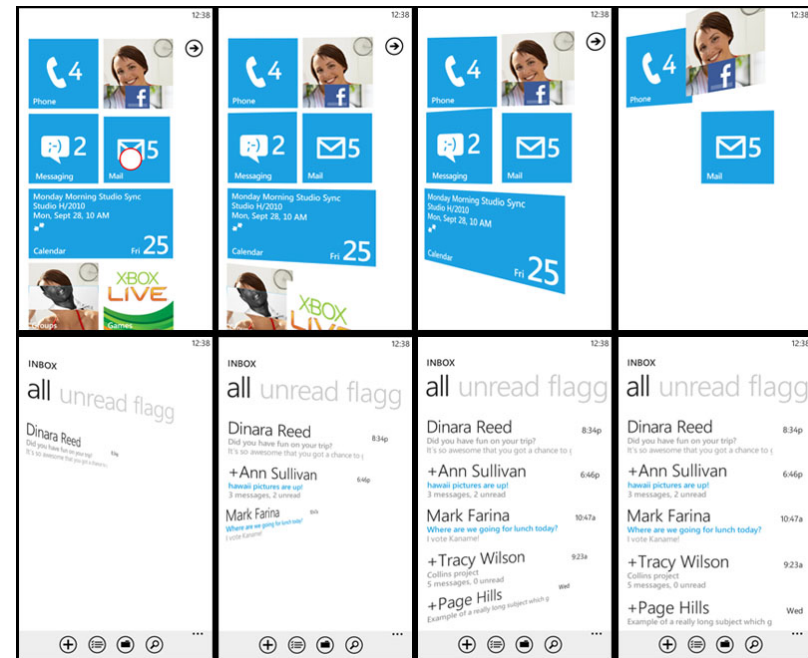
Be Modern:



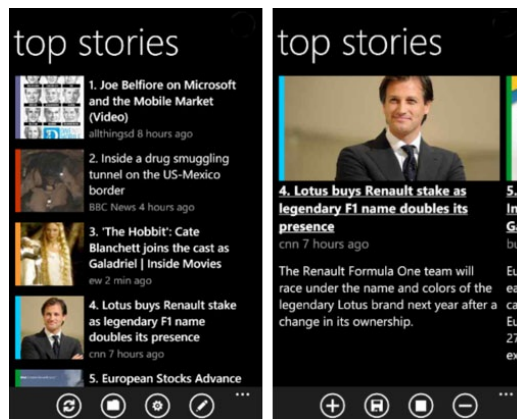
Be On-the-Go:



Be In Motion:



Be Clean:



General Design Principles:

- Be Simple, Readable and Minimalistic
- Be Consistent
- Be Authentic
- Be Innovative

Major court cases in the telecoms world



InformationIsBeautiful.net

idea: Guardian Tech. NY Times /data: bit.ly/sosueme



BI MOBILE TOOLS

BI Mobile Tools

TDWI MOBILE BI AND ANALYTICS

Does your organization plan to extend its existing BI and analytics applications to function on mobile devices or deploy new tools and services? (Please check the answer that best applies.)

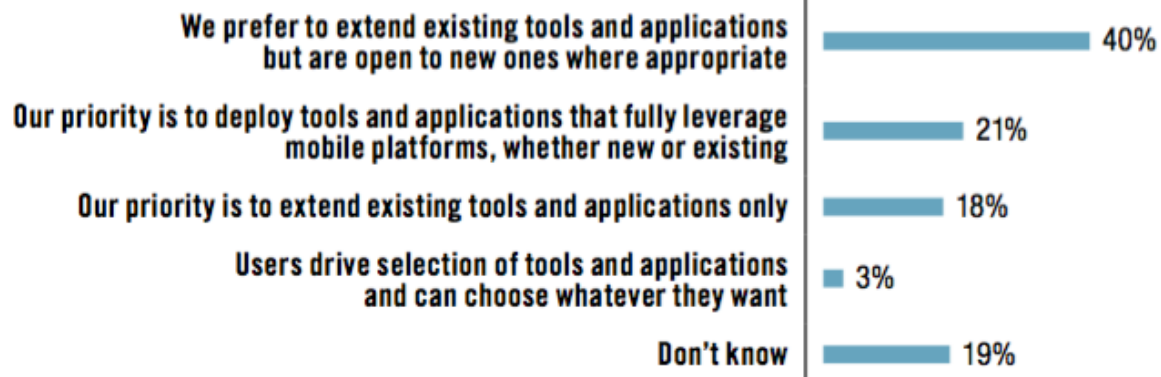


Figure 9. Based on answers from 406 respondents, each of whom could choose just one answer.

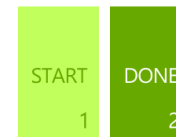
Looking Ahead

WHAT'S AHEAD IN 2012

- Android momentum continues
- Windows Tablet and Mobile takes #3 spot behind Apple and Android in 2012
- RIM will no longer exist as it has
- Apple: iPhone 4GS & iPad Pro
- Hybrid apps with HTML5
- Intel finally goes mobile
- Low power dual cores win over quad cores



"Fierce Reduction is not only about making clean UIs but also, and first, about simplifying the application flow."



Experiment... "An open mind leads to value creation" - SAP



For more information

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Email us at: info@RadiantAdvisors.com

THANK YOU!

Be Radiant!