digital media in everyday life

a snapshot of devices, behaviors and attitudes

PART 1: Mobile Device Ownership

museum of **science+industry** chicago

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About the Study

The Museum of Science and Industry, Chicago, conducted a national survey of youth and adults in August 2011. The purpose of this study was to better understand our audience and their relationship to technology and digital media in order to inform the development of our own digital initiatives.

Our definition of "audience" is necessarily broad, and includes visitors to the physical Museum as well as users of all our online, mobile, and social media experiences. Therefore it was not only important for us to understand what mobile devices visitors own that could be used in the Museum to interact with physical exhibits, but also how users behave online and in social networks, what kinds of activities and media they spend time with, and their attitudes towards digital experiences in general.

This study presents a snapshot of digital life at a specific moment in time and for a broad spectrum of users. We hope that the data will suggest new and deeper points of connection with a population that is seeking and consuming information in new ways, and who expect technology to make experiences more immediate, personal, and empowering. Better understanding this diverse audience and the dynamics of their interactions with digital media will help us to design intuitive experiences that engage these publics in unique and meaningful ways.

We approached the task of understanding the digital lives of our audience from three perspectives:

Part One: Mobile Device Ownership
What mobile devices do our audience members own now, and what will they own in the near future? How many people own smartphones, feature phones, or other app-enabled devices, and what groups are most likely to own each? What else could affect access to mobile experiences we develop, and how could we optimize access by design?

Part Two: Living With Digital Media
What do adults and youth do across online, mobile, and social media? How do digital fluencies and habits of media consumption differ between users? Does owning an app-enabled device affect the amount of media consumed across platforms, or the level of engagement with digital media?

Part Three: Attitudes About Digital Media
How do users feel about their relationship with digital media? Who feels comfortable with and empowered by digital media and technology, and who feels left out? How do self-perceptions of one's own knowledge and skills with digital media compare to stated behaviors and devices used? Finally, does how someone interacts with digital media and technology in the lived environment correspond to how they use their own digital devices?

Methodology

This report is based two nationally representative web-based surveys of 851 adults (ages 18 and older) and 909 youth (ages 8 to 17) conducted by the Museum of Science and Industry in August 2011.

Gender:
Adults: 47% male, 53% female
Youth: 51% male 49% female

Household Income (adults):

Less than $40,000	28%
$40,000-$59,999	17%
$60,000-$79,999	17%
$80,000-$99,999	13%
$100,000-$149,999	11%
$150,000 and above	6%
I'd prefer not to say	7%

Margin of Error:
Margin of error in this study is +/- 3.36 percentage points for adults and +/-3.25 percentage points for youth. (Margin of error may be higher when looking at subgroups within the two larger surveys.)

Definitions of Terms:
Mobile Device: A cell phone, smartphone, or other handheld app-enabled device such as an iPod Touch or tablet computer. (This does not include handheld gaming systems or other devices such as cameras or MP3 players.)
Smartphone: A web- and app-enabled cell phone
Feature Phone: A cell phone without a data plan or access to an app market
App-enabled device: Either a smartphone or other handheld device that is internet-capable and can download apps, such as an iPod Touch or tablet computer (This does not include feature phones.)
Tablets: A handheld tablet computer such as an iPad or Motorola Xoom. (Does not include laptops or netbooks.)
Youth: All kids and teens between 8 and 17 years old
Teens: Teenagers between 13 and 17 years old
Tweens: Pre-teens between 10 and 12 years old
Kids: Children between 8 and 12 years old
Adults: Anyone 18 years old or above

Mobile Device Ownership

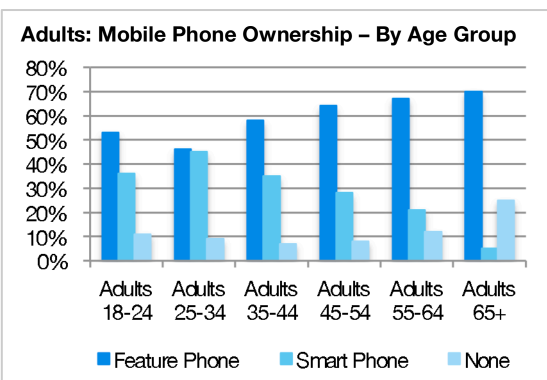
What mobile devices do adults and youth in the U.S. own?

Adults: Smartphone ownership continues to grow, especially among younger adults.

While overall mobile device ownership is growing among adults in the U.S.—89% now own a cell phone and 23% own an iPod Touch or tablet computer—the most striking trend is the growth of smartphones. More and more adults are choosing smartphones over feature phones for their next phone purchase as prices fall, app markets continue to grow, and web-enabled devices become more integrated into daily life.

Our findings reflected other national studies (Pew) that show a consistent increase in smartphones' share of the U.S. mobile phone market. As other studies have noted, roughly a third of the adult population now owns a smartphone. In our study, 30% of adult respondents owned a smartphone, while 59% owned a feature phone and 11% did not own any kind of cellular phone. Of all adults who own a cell phone, 34% have smartphones.

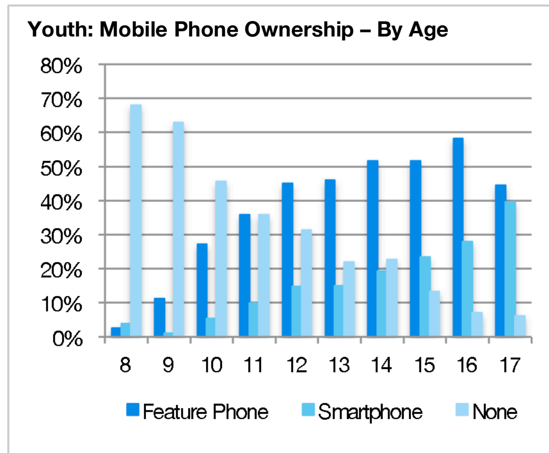
Demographically, smartphone ownership was evenly split between men and women, but skewed toward younger users (median age = 30). Adult smartphone owners were evenly distributed across all income levels, yet they were five times as likely to have attended some college than none at all.



Youth: Teens are more likely to own cell phones than adults, and as likely to own smartphones.

The critical turning point for cell phone ownership among youth is at age 10, where half (49%) of these tweens own either a feature phone or a smartphone. This percentage quickly rises until by age 16, 93% of youth own their own phone.

Although smartphone ownership is relatively low (5-15%) among kids 8-12, it starts trending consistently upwards at age 14. By age 17, 40% of youth own a smartphone, compared to 30% of all adults. In fact, older teenagers between 15 and 17 years old are on average slightly more likely to own some type of mobile phone than an adult (91% vs. 89%), as well as equally as likely to own a smartphone (30% of both groups).



How will mobile ownership change in the near future?

Percentage of teens with smartphones is rising faster than adults.

Also consistent with other studies (Nielsen), we found that smartphones are likely to outnumber feature phones very soon. In addition to the 30% of adults who currently own a smartphone, another 29% of adults expected to make the transition within 18 months of taking the survey in August 2011. Should this happen, an estimated 47% of all adults will own a smartphone by early 2013.

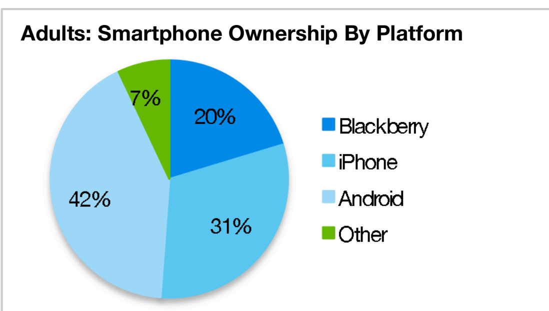
For teens, not only did we find that older teens are as likely to own a smartphone today as adults, they are also more likely than adults to buy a smartphone as their next mobile device. In this study, 35% of 15- to 17-year-olds who don't currently own a smartphone said they would purchase one in the next 18 months, compared to 29% of adults without a smartphone. Furthermore, significant numbers of younger teens and kids (10-22%) said they were likely to get a smartphone (directly or as a gift) in the near future, likely raising the total proportion of youth with smartphones dramatically by 2013.

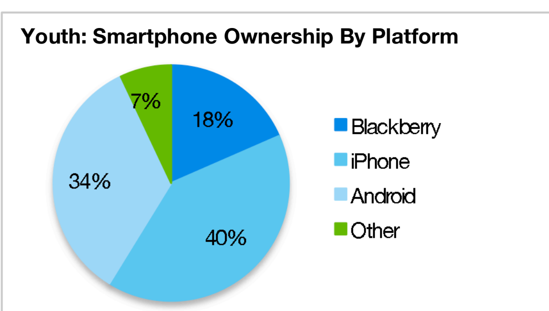
By combining current and estimated future smartphone ownership, we estimate that a larger proportion of the teen population will own smartphones than in the adult population by early 2013—55% of those 15-17 years old compared to 47% of adults.

Android vs. iOS debate yields mixed results

Other national surveys have shown that Android is surpassing the iPhone in new smartphone sales (Nielsen, Gartner). Indeed, in our study, 42% of adults with smartphones owned an Android device, while 31% owned an iPhone and 20% owned a Blackberry. In youth, however, this pattern was reversed. 40% of youth 8-17 with smartphones owned an iPhone, 33% owned an Android device, and 18% owned a Blackberry.

Our findings indicate that by early 2013, Android devices will still be the most popular smartphone among adults and the iPhone the most popular among youth. However, the increases and decreases of each operating system were within the margins of error of this study (3.36% for adults and 3.25% for youth), so we cannot definitively predict individual fluctuations in market share. It is likely that the balance of smartphone platforms will not change significantly by 2013, and that Android will retain the largest share of the overall mobile device market.



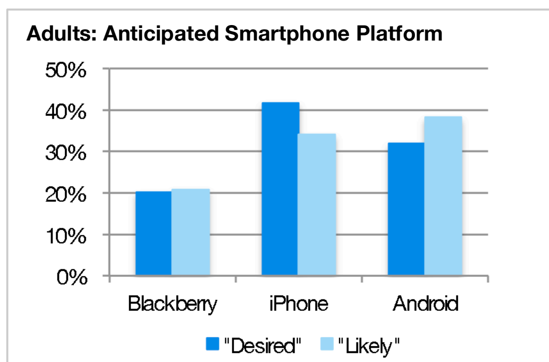


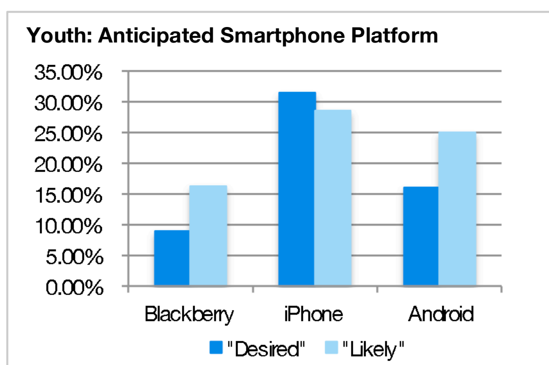
The iPhone: aspiration vs. reality for youth

The iPhone is still clearly a coveted device among youth, and far surpasses any other smartphone in desirability. When we asked youth 8-17 who do not currently own a smartphone "*What kind of smartphone would you like?",* the iPhone dwarfed the others at 31%, almost twice as popular as Android at 16%.

Yet, asking youth what they want is not necessarily an indicator of future purchases, especially since they might not make purchasing decisions themselves. We asked respondents to reevaluate the list of smartphones taking into consideration cost, plans, and mobile carriers, and to tell us what they were most *likely* to get. These results were more evenly distributed: youth thought they were almost as likely to get an Android phone (25%) as an iPhone (29%).

Somewhat surprisingly, Blackberry made up a significant portion of both the smartphones youth own now (18%) and what they are likely to get (17%), which contradicts other studies (Nielsen) that have shown its popularity declining rapidly. One reason for this could be that some youth expect to inherit an older Blackberry from a family member, while Android and iOS phones are more likely to be purchased new. It is important to note that while the current debate has centered on iOS versus Android, Blackberry still makes up nearly a fifth of current and anticipated smartphones owned by youth 8-17.





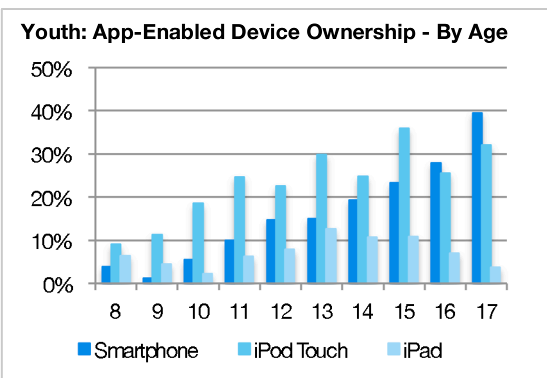
Based on these results, the iPhone seems to be an aspirational device with a disproportionate influence on the cultural conversation among youth. When we look more closely at what smartphones youth and adults actually own, and are most likely to own in the near future, the field is mixed, and cross-platform or multi-platform development becomes even more important. As we will discuss, the prevalence of the iPod Touch further complicates this picture.

What other mobile devices should we consider?

iPod Touch doubles access to mobile media among youth

When developing apps or mobile media, most organizations consider what percentage of their audience or target market owns a smartphone. We observed, however, that other app-enabled devices—particularly the iPod Touch— are even more common than smartphones among youth, and taken together, a much higher percentage of youth have access to an app-enabled device than has been previously measured.

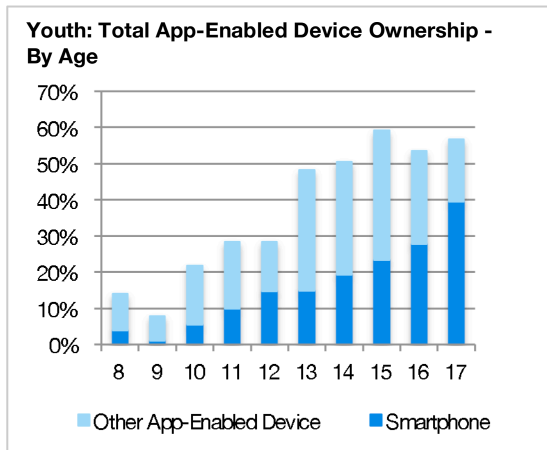
A quarter (24%) of youth overall and 30% of teens own an iPod Touch. For those who can't yet commit to or afford a data plan, the iPod Touch is an important point of access to apps, web and mobile media.



One key point at which ownership of all devices rises is at age 13—which corresponds to junior high, greater independence, and the beginning of a digitally-mediated social life. The fact that the iPod Touch is so popular among tweens 10-12 could mean that it is a gateway device to smartphone ownership, which then increases around age 15. Even iPad ownership, which is low across all groups of respondents, is highest among 13- to 15-year-olds. Age 13 could be the point at which youth either get more interested in digital media and mobile devices, or have a better chance of getting the devices they want.

Teens more likely to own an app-enabled device than adults

Taking into account all device types, many more youth have access to apps and mobile media than has been previously documented when only smartphones were measured. This is *in addition* to other devices owned by their parents or other members of their household. For example, only 10% of all 11 year olds own their own smartphone, but 28% own a device on which they could download an app, check in to a location, or play mobile games. Access to app-enabled devices (iPod Touch, iPad, or other tablet computer) jumps among teens: almost half of 13 year olds and nearly 60% of 15 year olds are likely to be carrying a smart device in their pocket. While iPod Touch ownership was relatively low in adults, taken together with their smartphone and tablet ownership, the total number of adults with app-enabled devices is currently 42%.



The prevalence of the iPod Touch (and tablets, to a lesser extent) serves to decrease the gap in technological fluency and access to mobile media between youth with access to smartphones and those without access. Until now, we have looked at youth with smartphones as the "super users" of our audience, who are the most comfortable with and knowledgeable about digital and mobile media, and who must consume more of it than anyone else. However, this data shows that many more kids and teens with an iPod Touch have the same access, develop similar fluencies, and can be among the heaviest users of mobile media. This is covered in more detail in the next two reports in this series.

Design Recommendations: How should these findings affect the digital experiences we develop?

Based on these findings, MSI can make the following recommendations to organizations planning to develop mobile experiences:

Cross-platform is essential

The data show that Android, iOS, and Blackberry platforms are all significantly represented in the smartphone market. Creating apps for only one platform will exclude 60% to 70% of users. Creating both iOS and Android applications—or a mobile website optimized for both—is a best practice. The mobile web would also be the most efficient way to include the 20% of Blackberry users without developing three separate applications. However, it is notable that Blackberry users spend the least time with mobile apps: only 11% of youth and 8% of adults who use a Blackberry spend at least an hour a day using apps on their device, compared to 20% of youth and 25% of adult Android and iPhone users.

Access to apps is broader than you think

The iPod Touch and tablet computers bring app-enabled mobile access to very high levels in the general audience population, especially among youth. We can now assume that over half of teens—and up to nearly 60% of older teens—carry some app-capable device in their pocket.

This is a key point when considering whether to develop a mobile experience that relies on the user's device ownership, or whether to lend devices to the audience to increase accessibility. When designing mobile experiences for families, we may now be able to assume that there is at least one, if not several, app-enabled mobile devices in the group.

In fact, if there are no smartphones in the group, the youth is by far the most likely to have an iPod Touch to use or to be most fluent in that platform. The fact that the kid or teen may be the primary users or leaders within the family has the potential to change standard practice and break new ground in the interaction design of mobile applications.

Invest in Wi-Fi access for in-gallery use

The pervasiveness of the iPod Touch and the tablet computer—devices that don't necessarily have a data plan enabled—makes it even more important to provide public, in-building Wi-Fi access so that these users may also access any mobile content offered. If institutions decide to rely on users' own devices and expect them to download or use any online application within the building, it is critical to provide them with the access to do so.

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