

HOW USERS SHAPE THE MOBILE ECOSYSTEM

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In thinking about any digital ecosystem, it is worth identifying at the outset the components of the ecosystem. The supply side – companies – certainly plays an important role, as do governments that set rules for things such as spectrum allocation. Civil society or non-profit groups – those entities that represent specific perspectives on the rules of the game – are other important parts of the ecosystem.

Another part of the system is users – the topic I will talk about. Specifically, I want to talk about mobile adoption patterns as they contrast with adoption patterns for the plain old desktop internet. It is tempting to think of adoption patterns for the mobile net as the same as was the case for wireline but a look at the data don't bear that out. The comparison, I think, will help us better understand the mobile ecosystem.

The first thing to point out about mobile versus desktop access is that adoption of the mobile internet, for the vast majority of users, means transferring a set of habits formed on the mature desktop platform to a new mobile platform. Very few people use mobile or wireless access as a substitute for home wireline access, and not many people in the U.S. are “de novo” internet adopters using a mobile wireless device. So mobile adoption rests on home wireline habits and these habits have for many users matured and gravitated to specific primary uses – such as information gathering, socializing, and content sharing. Given those two conditions, it is not surprising to see a number of distinct categories for what counts as highly engaged mobile users.

LESSONS FROM LOOKING AT ADOPTION OF THE MOBILE NET

To understand this, let me talk about Pew Internet's recent typology of information & communication technology users, which is contained in a report called “The Mobile Difference.” This report places respondents into categories depending on their ICT assets, their actions, and attitudes toward them. We found that 39% of the adult population fit

into five categories that we label “motivated by mobility.” That is, people in these categories have positive and improving attitudes about where ICTs fit in their lives. But different mobile themes emerge for the five “motivated by mobility” groups. One group is all about “creative collaboration” while another is about social networking and using mobile devices for entertainment. Still another likes to share user-generated content, another uses what you might call traditional tools – texting and emailing – to manage the logistics of busy lives. A final one is an older group which is new to the mobile phone, and likes the greater availability afforded by mobile phones. So, with respect to users and the mobile ecosystem, we have:

Lesson One: *There is no set profile of a “lead user” in the mobile space; rather there are a number of different kinds of lead users.*

The second thing I want to do is talk about the demographic characteristics of mobile adopters, and contrast that with early adopters of the internet of about a decade ago. If you look at active users of the internet among adults in the early days of mass adoption, they were young, but really not youthful. The median age of frequent users of the late 1990s “killer app” – and that would be email – was 38. I define “frequent email users” as the 23% of adults who, in 1998, said they checked their email at least a few times per week. That was at a time when 41% of all adult Americans used the internet (with probably no more than one-third having access at home). A slight majority of online users were male (52%) and most (nearly 90%) were white. If you’re picturing an early online adopter, circa 1998, as a white male with a large clunky monitor on his desk at home, anxiously listening to the progress of his modem logging on, maybe with a boom box in a corner of the desk playing the Eagles Greatest Hits, you have it about right.

The demographic look of active users of the mobile internet differs greatly from early internet adoption. A report we released last year found that 31% of U.S. adults, on the typical day, did at least one of ten non-voice data applications on their handheld – that would be texting, emailing, or taking a picture. Overall, 77% of Americans had a cell phone when we asked these questions at the end of 2007.

Among active mobile net users, the median age among these adults is 32, and they are ethnically diverse. In fact, English-speaking Hispanics and African Americans are more likely than white adult Americans to engage in a non-voice data application on a mobile device on a typical day.

Lesson Two: Active users of the mobile net are younger and more diverse ethnically than similarly situated early adopters of the desktop internet of a decade ago.

The third thing I'd like us to think about is the prospect of the mobile ecosystem becoming the dominant metaphor for our overall digital ecosystem. Our typology of ICT users is again very relevant here. I noted that 39% of the adult population falls into 5 "motivated by mobility" groups. What of the remaining 61%? We call them the "stationary media majority" and these Americans belong to five groups in our typology who are, in general, less engaged with modern ICTs. One of these groups – 14% of the population – is completely off the grid, meaning its members have neither a cell phone nor internet access. The other four groups – nearly half the adult population at 47% -- have a lot of technology at their disposal. Collectively, 87% are internet users, 81% have cell phones, and 58% have broadband at home. But these groups, though some are engaged with the wireline internet (mainly) on the desktop, aren't enthused by mobile applications. Attitude is the key factor; members of these groups tend not to like being interrupted by their cell phone, and their uneasiness with "always available" connectivity has grown over time.

Lesson Three: Even though the mobile internet appears to be the hard-charging next thing in the digital world, there is a sizable population that may be slow adopters of mobile applications.

IMPLICATIONS FOR POLICYMAKERS AND THOUGHT LEADERS

From these lessons about the user perspective on the mobile ecosystem come three implications for policymakers and thought leaders. The first implication comes from the last lesson pertaining to the stubbornness of some users who may stick to stationary access for some time: moving everything to mobile won't serve all users. Whether institutions are designing digital applications for e-government or e-health, the computer

screen at home will, for a lot of adults, be the primary access point. Make sure design serves them, not just cutting edge mobile users.

The second implication has to do with the youth and diversity of leading-edge mobile users. This diversity has important implications for innovation. If you believe that diversity helps foster creativity and that creativity helps foster innovation, then the pattern of adoption of the mobile internet holds exciting prospects. What to do to further cultivate this environment? Certainly an open environment for innovation on the mobile platform is relevant here. The “walled garden” approach to content development and availability proved unsustainable in the wired internet – AOL arguably waited too long to abandon that – and we see this practice wearing away in the mobile world. Now, market forces may turn out to be strong enough to maintain openness. However, the presence of such diversity and creativity in the mobile ecosystem leads to my second implication: All actors in the mobile ecosystem have a stake in maintaining an environment that is open to innovation from users.

The sizable group of mobile enthusiasts also has implications for cloud computing. Cloud computing, from the user perspective, means maintaining lots of personal data and using computer applications that reside on remote servers, not a user’s device. The migration to cloud computing is not synonymous with the mobile internet, but the growing utility of mobile applications make using the cloud more attractive. This means people will increasingly store personal information – whether it is financial or about their social networks – on devices they don’t own. This places a premium on tools to manage personal information and maintain the privacy of people’s information. There haven’t been a lot of widespread “privacy scares,” but just a few could undermine people’s confidence in the mobile internet. This leads to my third implication: It is crucially important to make sure users have the proper tools to manage their personal information.

The mobile ecosystem, as it is emerging, is dynamic and diverse. It does not have an identifiable set of lead users, but rather a variety of active users with differing

preferences. With innovation generally becoming more decentralized, this dynamism in the mobile sector adds spice to already exciting developments in the innovation system.

FUTURE CHALLENGES

The question going forward, for policymakers and thought leaders alike, is how to sustain this momentum. I've mentioned a few issues that are front and center – an environment open to user innovation and development of tools for users to manage personal privacy and security. In concluding, though, I want to leave you with two important issues to consider:

- Government supports a great deal of R&D spending in the U.S. and, through procurement, helps shape the environment in which information technology is deployed. In a world in which users are often the drivers of innovation, what upstream investments do we, as a society, have to undertake to support a decentralized user-driven innovation system?
- With more people putting more of their lives online, it is important that they have the tools to manage their personal information. But what obligations do users have in an environment where information is abundant and moving about very fast? This isn't just about the obligation to be quiet in the quiet car, but having the user gain an understanding of, say, the consequences of a social networking site changing its governance rules. A variety of users – not just elite – have to participate in shaping the rules of the game in the mobile and broader digital ecosystem. As the mobile ecosystem develops further – delighting many users and puzzling others – all stakeholders stand to benefit from discourse that is not just about the technical wonders, but also the deeper societal consequences.