
Tablets Use in Emerging Markets: An Exploration

Lucia Terrenghi

Google, Inc.
1600 Amphitheatre Parkway
Mountain View, CA 94043
luciat@google.com

Laura Garcia-Barrio

Google, Inc.
1600 Amphitheatre Parkway
Mountain View, CA 94043
lauragb@google.com

Lidia Oshlyansky

Google, Inc.
1600 Amphitheatre Parkway
Mountain View, CA 94043
lidiaot@google.com

Abstract

Tablet sales are growing worldwide and changing the landscape of personal computing. This is true across mature markets as well as emerging ones, however little research has been done on the influence of tablets in the emerging markets. This paper presents insights gained during an exploratory study on the use of tablets in four cities: Sao Paulo, Mexico City, Jakarta and Bangalore. The results uncover similarities and differences with regard to the use of tablets in mature markets versus emerging markets and identifies implications for design across markets.

Author Keywords

Tablets; user study; emerging markets.

ACM Classification Keywords

H.5.2. Information interfaces and presentation (e.g., HCI): User Interfaces

Introduction

The recent drop of the price of tablet devices [3], together with improved affordability of technology by a growing middle class in emerging economies such as India (IN), Indonesia (IN), Brazil (BR) and Mexico (MX) [3], [5], provides for interesting possible scenarios of technology leapfrogging. Will people start using tablets

as a first and unique computing device? And who are the first adopters of tablets in those markets?

With these questions in mind we found little research on how tablets are being used in emerging markets. We therefore conducted our own investigation: The insights we present build on a study conducted with 17 participants across Jakarta (ID, 5), Bangalore (BR, 3), Mexico City (MX, 4) and Sao Paulo (BR, 5). This paper contributes a deeper understanding of the role that tablet devices play in the lifestyles of people in those geographies and draws design implications that are grounded in the insights from the study.

Motivation and Background

While researching the tablets landscape we found much in popular media, market research and academic papers laying out a scenario where tablets are blowing past PC sales worldwide and their price is dropping, where more and more media content is consumed on mobile devices, where tablets become TV watching companions and education supporters. However, most of these insights referred to mature markets, the US in particular, and it was aggregated qualitative data (see [9], [12], [14], [15], [16], [17] as just a few examples). Likewise, our colleagues in the US had recently completed a study on the use of tablets in the US [7]. Meanwhile, we were reading about the landscape in emerging economies, where demand for tablets is growing exponentially (more 200% in 2012 in Brazil), where local manufacturers are becoming market leaders (DL in Brazil [7]), and where governments introduce programs for all of the students in the country to have entry level subsidized tablets for \$20 in the next 7 years ('Aakash' program in India) [10], [13].

Much has been written on mobile phones in emerging markets (see [2], [4] as examples) but little has been done around the particular use of and design for tablets. Given the particularities of these markets in terms of: relatively recent uptake of technology, led by mobile devices; varying access to infrastructure, connectivity and resources; an overall young population, concentrated in large urban areas; and a growing middle class [1], [6], [11], we felt a need to better understand possible geographical and cultural differences. Therefore our study set out to looking for insights into what tablet users were doing with their devices and whether this differed with the users already noted in the US. Specifically we aimed to answer:

- How do people use tablets in some emerging markets?
- How do tablets fit in people's ecology of devices?
- How much of an internet vs. a computing device is the tablet for them?

To address these questions we designed a study to explore relatively quickly and cost-efficiently the use of tablets by middle class users in those regions.

Study Methodology

We conducted in depth interviews with 17 participants from Jakarta, Bangalore, Mexico City, and Sao Paulo. The choice of the location was driven by the presence of one of our company's offices in the city, so that we could conduct some (12) of the interviews remotely, having the participant visiting our local office and connecting over video conference. We recruited people with different occupation (e.g. a few students, two teachers, a copywriter, a couple of developers, a couple

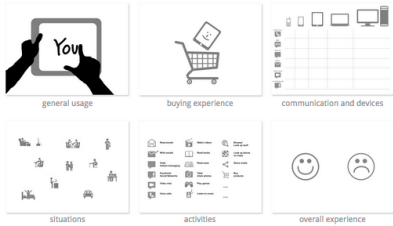


Figure 1: The visual script we designed and administered to guide the interview

of entrepreneurs, etc.); age range was: 19-51; the gender split was: 7 female, 10 male; and we strived for a balance of tablets operating systems (10 iOS, 6 Android and 1 Kindle Fire users).

A visual script (see Figure 1) was administered to each participant in a semi-structured interview that would cover the following topics:

- **general use:** e.g., when and where the person uses the tablet, what applications she has installed and likes most, etc.;
- **buying experience:** e.g., why and where she bought the device, how much it cost, how did she decide for a specific model, etc.;
- **communication patterns and devices:** e.g., what devices she owns/uses, what she uses them for, which communication tools she uses, etc.;
- **situations:** going through different images, we discussed diverse situations in which she uses the tablet, e.g., in bed, in the office, commuting, etc.;
- **activities:** similarly, we discussed the activities that she would do on the tablet (e.g., browsing, playing games, using social networks, etc.), how often, and with which tools or applications, etc.;
- **overall experience:** finally we asked for the participant's evaluation of the overall experience, what she liked most and least about her tablet use.

Insights

It's an additional gadget, not a replacement

None of the participants used the tablet as a replacement for another device. All of them had a laptop or a desktop computer and 14 had a smartphone

too. Interestingly, most of the participants (9) did not choose to buy the device, but rather got it as a gift from someone or as a prize from some contest or lottery. Most of the participants didn't feel like they needed a tablet until they owned one. One participant, for example, said: "I won it at a contest for creative writing. I didn't think of buying one but now I cannot think of being without it".

It provides new contexts of use

As the tablet enters people's lives it takes up some tools or activities from other platforms, allowing for the use of those tools in new contexts. Some students, for example, said they'd use the tablet in school for playing games during boring classes. Some participants said they'd rather watch a video on a tablet rather than on a smartphone because of the larger screen, or use the tablet for social networks in bed because it's more comfortable and relaxing than using a laptop or a desktop PC. Interestingly, 10 participants used video chat on tablet to communicate with intimates living far away, and in those cases it was the preferred device for video-chat.

It's more a "portable" than a "mobile" internet device

Only 4 participants had a 3G antenna and one of them didn't actually use mobile data regardless. None of the participants used a mobile dongle for connecting to the internet. Still, all the participants said they'd use the device online most of the time, meaning they would use it over Wi-Fi at home, school, or at hotspots available in libraries, cafes or shopping malls. The reasons we heard were multiple and diverse for different people and regions: i.e., the prices of data plans are too high (as we heard for example in Jakarta); the quality of mobile network is not worth the additional price (e.g.,

in Bangalore); there are safety concerns associated with showing a tablet in public and crowded places, as we repeatedly heard from participants from different cities. One participant from Jakarta, for example, stated "I have a 3G antenna so I can 'google' everywhere I am if I need to look up something [...] But I don't have a data plan because it costs too much, you know. I only connect over WiFi [...]. If I am in a bus or public transport I don't use the tablet or any device because this is Indonesia. Too many people and I am also scared about that".

There is a host and a guest

We observed different ways in which people share the device, often depending on the frequency of sharing and whether the tablet would be more of a home appliance or a personal device. The fact that most applications allow for only one account caused some difficulties for people: Some participants would split permissions between users by having one person using the application and others accessing the tool only through the service; One user would not install social network applications because he shared the device with his father so he would only use the service on the browser and log in and out every time.

Document handling is cumbersome

Document handling is not straightforward. Several iOS users adopted Notes as an application for note-taking because it's already installed, but ended up not being able to use those notes on other devices. Additionally, several participants would use Microsoft Word on their desktop or laptop, and could not find an easy way to open and edit their docs on the tablet. One participant said: "I read a lot of academic papers on my tablet. Some are from paid magazines I can only access for

free from my university computer, on the school network. So I have to download them on my notebook, then transfer them to Dropbox, and from there I grab them on my iPad. Then I open them on DocAS, an app I bought that is one of the best for PDFs".

Shopping is "for the tablet", not for goods or services

Almost no-one in our sample felt comfortable purchasing goods or services using the tablet. The only transactions were for paying for an app or a book, and the amount was always very low (below 10 USD). The reasons we heard were: that it doesn't feel safe and some people would "trust the laptop more" ; several payments interfaces do not render properly on the tablet browser, causing problems with the entry of personal data; some people felt they would be more likely to make typing errors on the tablet.

Discussion and Implications

The study has some limitations in terms of generalization of its results because of: the size of the sample (17 participants); the time span of our interaction with the participants (60-90 minutes); and the setting of the interview (over video-conference rather than in the participant's typical context). Nevertheless we believe our results provide for some meaningful insights, gathered in a time and cost efficient way, and shed light on specific aspects that larger ethnographic research could address going forward. In particular, the study uncovers some similarities and differences across geographies and cultures, and provokes thinking around design implications.

Similarities and differences across geographies

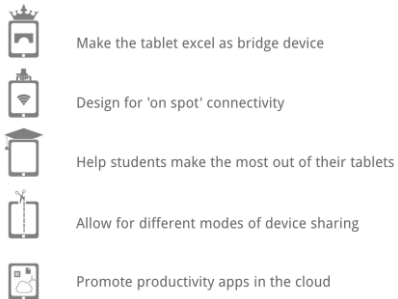


Figure 2: Our implications for design, valid across markets.

According to our study, the middle class in Sao Paulo, Mexico City, Jakarta and Bangalore conceives of the tablet as an additional device rather than a substitute our results are similar in many ways to the ones from the analysis of mature markets.

Consistently with the quantitative and qualitative data focusing on the US market (e.g., respectively [9, 8]). , our participants mostly used the tablet in-laid back situations, such as in bed or while watching TV. The most popular and recurring activities were casual internet browsing, playing games, checking e-mails, and watching videos.

On the other hand some of our findings diverge from the ones based on the US population and suggest some cultural differences that would deserve further exploration. For example, none of the participants would use the device while commuting. The recurring reasons were: safety concern; lack of 3G antenna or data plan; or poor quality of the mobile network. Additionally, only 2 of our participants would use the tablet in the kitchen: Cooking, especially in Asia, is indeed a task often performed by helpers, a workforce affordable by the middle class. While in the US and other mature markets cooking and the kitchen space have become essential parts of people's lifestyle (think of the many food- and cooking-related applications), they are not 'aspirational' contexts in lots of emerging economies yet. Furthermore, in several cultures there are gender patterns for which only women cook or even enter the kitchen. More ethnographic research in the home space would probably provide a deeper understanding of the different roles and use cases in the households.

Implications for design

Based on our insights we could draw some implications for the design of tablets applications and operating systems (see Fig. 2):

Make the tablet excel as bridge device: Users' data should be easily and readily available across devices and support cross-platform interaction. In that sense the tablet should not be considered in isolation but rather as an element of a broader ecology of personal devices.

Design for 'on spot' rather than 'always on' connectivity: In the markets we have investigated mobile connectivity is not ubiquitously available, reliable, or affordable. Additionally, showing a device in a public space raises safety concerns. The interaction with web services is situated most of the time, rather than 'on the go' and seamless. Streaming, for example, happens only in wifi spots, not ubiquitously.

Help students make the most out of their tablets: Some students said that they got the tablet for study or productivity purposes in the first place, but ended up using it mostly for entertainment because it was cumbersome to handle documents. Especially students using iPad complained that the device is not very good for productivity and files exchange.

Allow for different modes of device sharing: Sharing patterns appeared to be quite different depending on the role the tablet would play in people's lifestyles: i.e., whether it was a study buddy, a personal assistant or a home appliance (see Fig. 3). Account switching should be simple on the device, on the native apps, and on the browser in order to allow

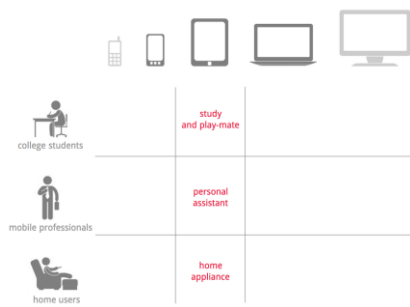


Figure 3: We found that the tablet, as additional device in an ecology of devices, plays different roles for different people lifestyles: is a study and playmate for students; a personal assistant or mobile professionals, who use the tablets at meetings and/or while visiting clients; and a home appliance for home users who use the device almost exclusively at home.

for different sharing patterns. Android 4.2 for tablets has partially solved the problem at the device level, but the users in our sample did not have that. Besides, the issue often remains at the application level.

Promote productivity apps in the cloud: Users resort to the Notes app and email docs back and forth because in many cases they haven't thought of using Google Docs or similar cloud-based services. The tablet is in many cases meant to be an assistant device for work, but people struggle using it in that way because the 'seams' between devices and context of use are somewhat disruptive and lots get 'lost in translations'.

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