



EITL ELINKEINOELÄMÄN TUTKIMUSLAITOS
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Strategy in a post-PC world – Is the OS the platform?

Bryan Pon (Univ. of California, Davis)

NOKIA

The Federation of Finnish
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Strategy in a post-PC world: Is the OS the platform?

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In the PC era

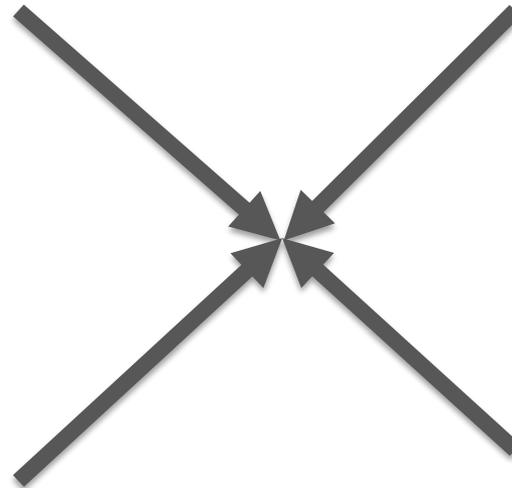
- Microsoft dominated with its OS and closely tied applications
- Controls the bottleneck while stimulating competition in other levels of the stack
- Industry structure was clear



Things changed with the smartphone industry

NOKIA

Google



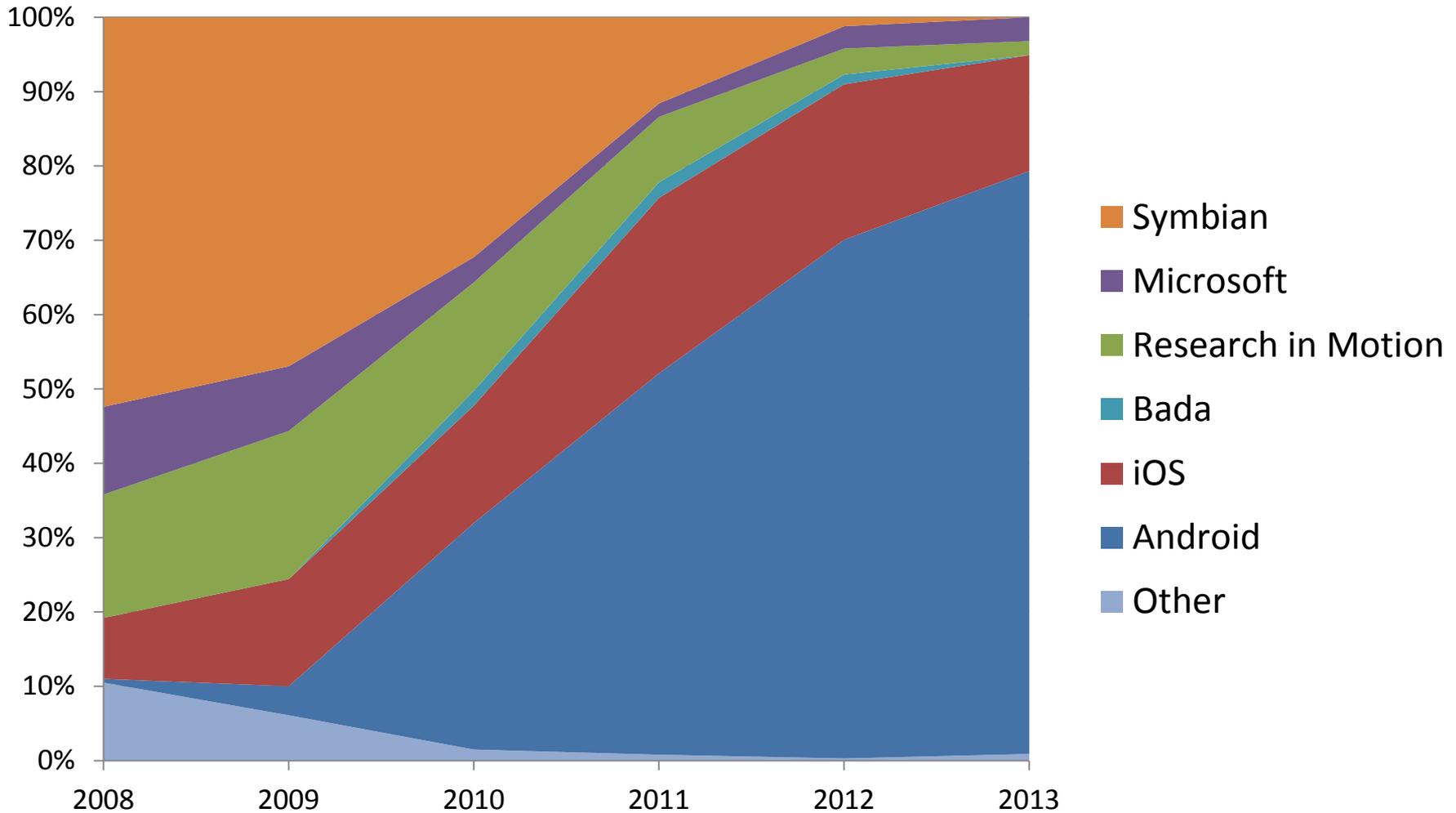
Microsoft[®]

Disruption

- Apple changes the game with iPhone, then leverages iTunes to build a closed platform
- Google enters and with its different revenue model, makes Android open-source to de-value the OS

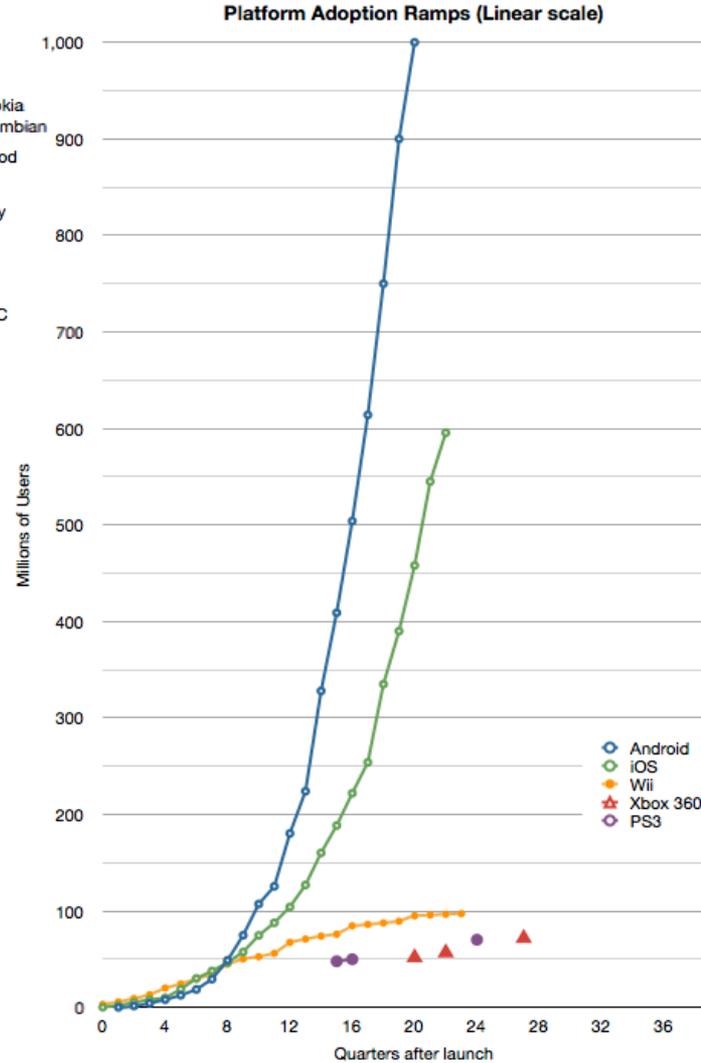
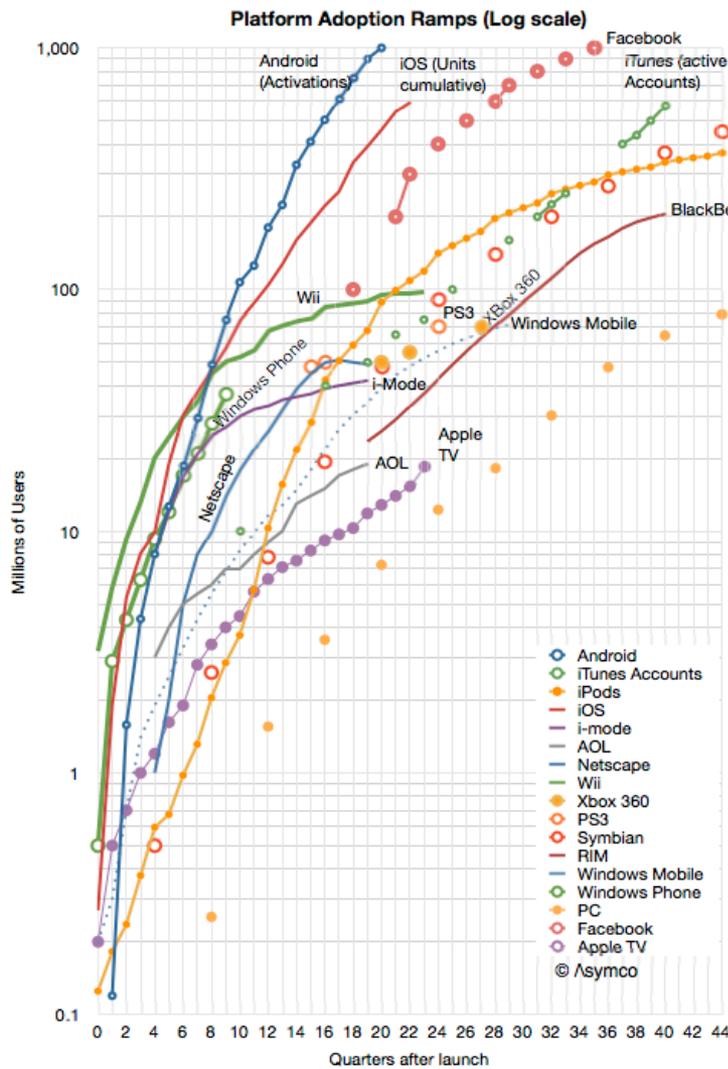


OS platform wars



Source: Gartner reports

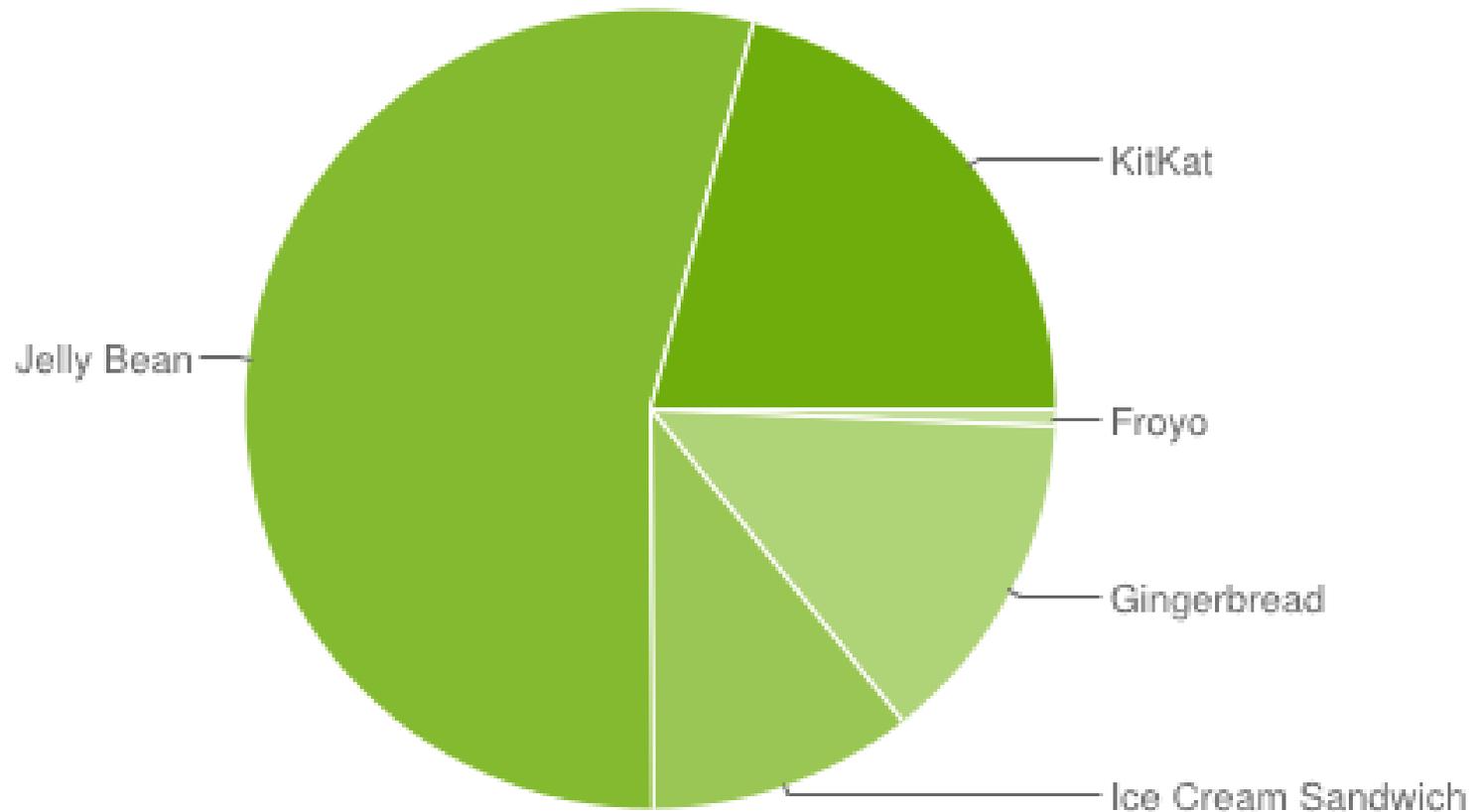
Android explodes



Source: Horace Dediu

And is fragmented

Only 21% on latest OS (vs. 91% for iOS)



Source: Google

And creates other platforms

- Amazon Fire tablets, then Fire phone as vehicle to the digital goods and services
- Xiaomi sells great hardware at cost to build user base, which it monetizes through services



Google's solution: GPS

- Google Play Services reins in version fragmentation
- Increases disparity between AOSP and proprietary code (“Certified Android”), making it harder for OEMs to go it alone

Services come to mobile

- SaaS / On-demand software by Salesforce.com, Dropbox, etc. in and outside the enterprise
 - Typically runs in browser
- On mobile, apps become primary way of connecting with services
 - App economy generates at least \$20B/year (\$5B/year Google Play, \$10B/year iOS Appstore)

Walled gardens and native code

- Interoperability has been strategic tool
- But increasing cross-platform development
- In the “era of abundance” cheap processing power means virtualization and conversion are easier and faster, making native code less important
 - Tools for porting apps from one OS to another

Why mobile is different

The PC worked in isolation and had value as a standalone computing device

The smartphone is **predicated on connectivity**, and **its value is directly tied to its ability to connect to services and personal data over the network**

Over the top: Disintermediation

- Platforms within a platform
 - Facebook, Dropbox
- OTT players: WhatsApp? Line, WeChat
 - Take billions in operator revenues, but also OS-agnostic
- Controlling access: Facebook Zero, Google Free Zone
 - These become the Internet for their users

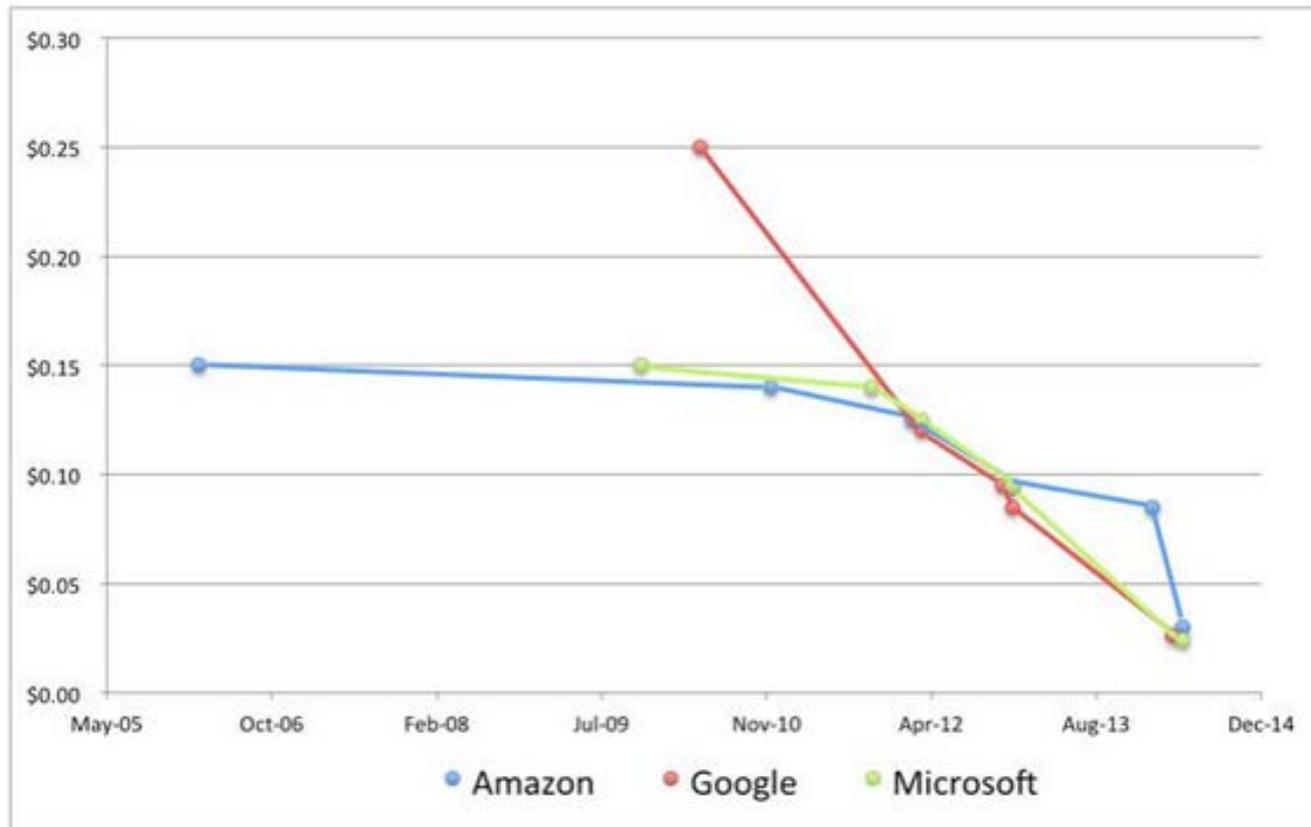


Is the Internet the meta-platform?

- Increasingly all devices access and store data in the cloud, communicating over the internet and TCP/IP: TV, telephony, autos, home
- If Android has removed controls from the OS layer, can firms build walled gardens on the open standards of Internet?

Cloud control? IaaS and PaaS

- Google, Amazon, Microsoft are the leading cloud services providers with IaaS and PaaS



Lock-in and control reside with data

- The services with the most lock-in use personal data in meaningful way
- Does the revenue model of the service matter?



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Photos



My Business

Thank you

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"The future of the mobile internet is really about services."
— Bin Lin, co-founder, Xiaomi