

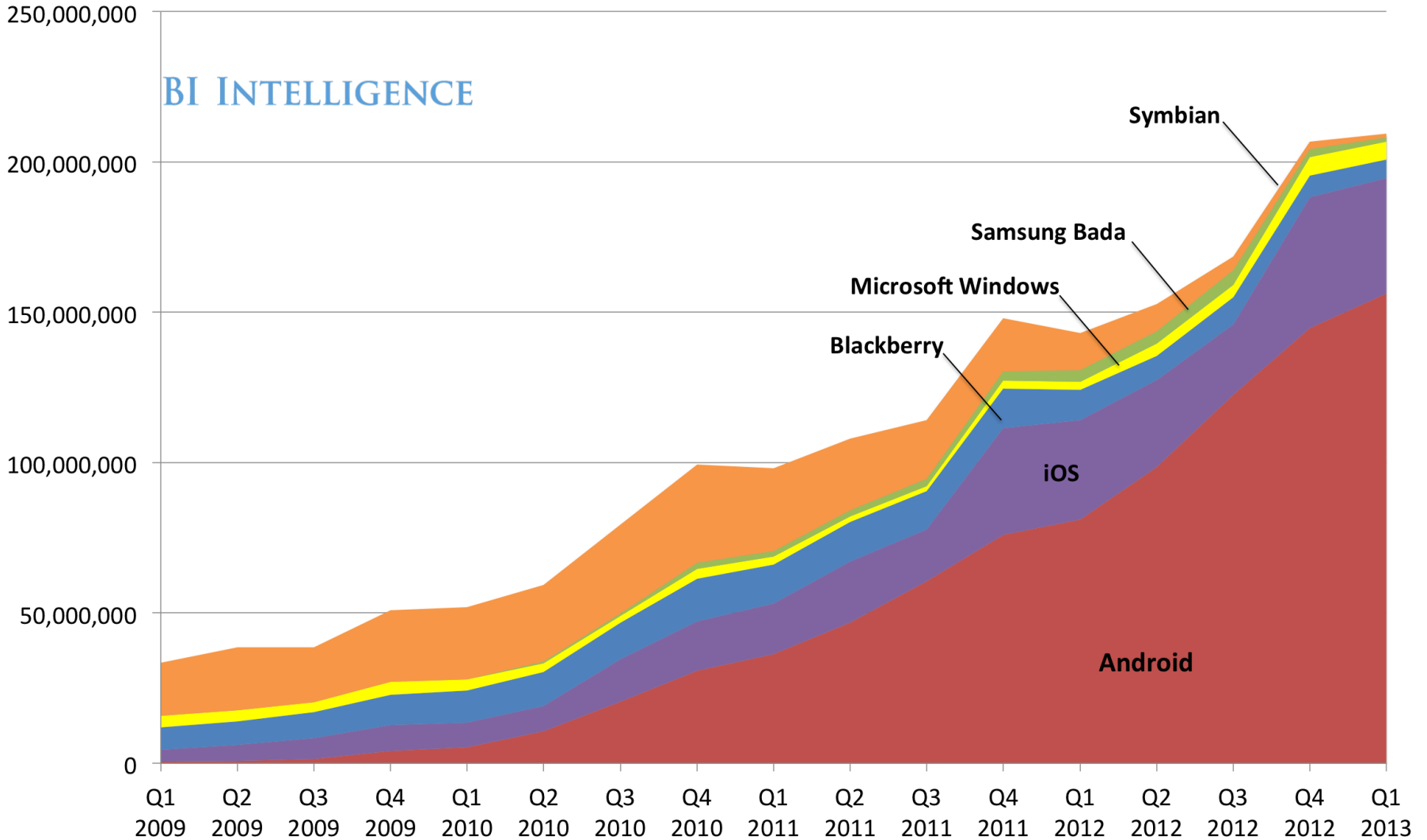
The Economics of E-commerce and Technology

Introduction

Numbers, Numbers, Numbers

Global Smartphone Shipments By Platform

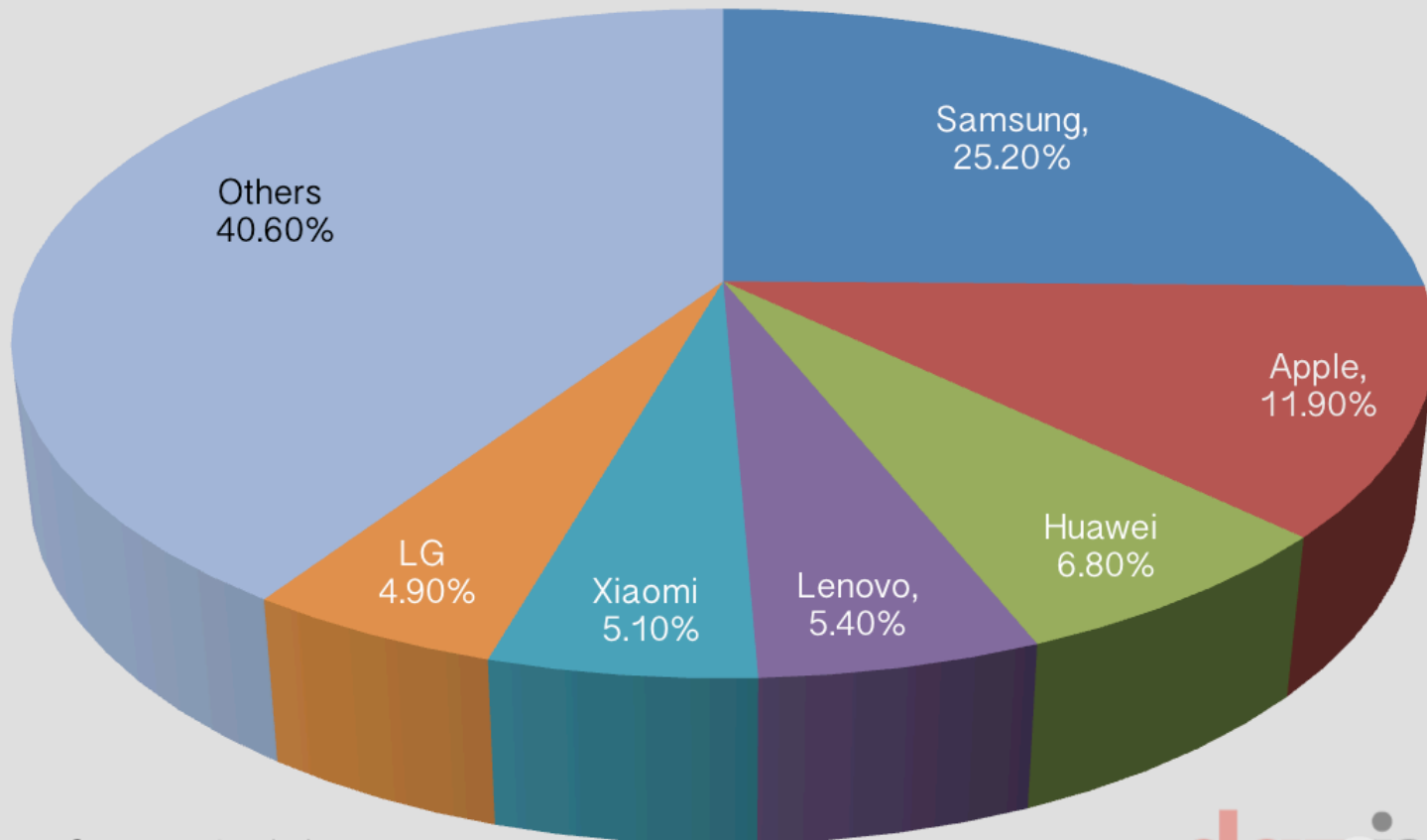
BI INTELLIGENCE



Source: Gartner



Global Smartphone Vendor Market Share (Q2 2014)



Source: Strategy Analytics,
July 2014

dazinfo.COM
STAY AHEAD OF TECH CURVE

Global Smartphone Operating Profit (US\$, Billions)	Q4 2013	Q4 2014
Apple iOS	11.4	18.8
Android	4.8	2.4
Microsoft	0.0	0.0
BlackBerry	0.0	0.0
Others	0.0	0.0
Total	16.2	21.2

Global Smartphone Operating Profit Share (%)	Q4 2013	Q4 2014
Apple iOS	70.5%	88.7%
Android	29.5%	11.3%
Microsoft	0.0%	0.0%
BlackBerry	0.0%	0.0%
Others	0.0%	0.0%
Total	100.0%	100.0%

Total Growth Year-over-Year %

~ | 31.4% |

Now on with the class...

About yours truly

- ▶ Associate Professor, UCLA
- ▶ Education: B.A. Economics, Cambridge, and Ph. D. Business Admin, Stanford
- ▶ Visiting positions: Columbia, Microsoft Research, Northwestern, NYU, Penn,
- ▶ Associate Editor of American Economic Review, Theoretical Economics, Journal of Economic Theory
- ▶ Research: Auctions, Dynamic Pricing, Reputation



Outline for Lecture 1

- ▶ Purpose of course
- ▶ Logistics and teaching method
- ▶ Overview of course
- ▶ Examples of topics we'll cover

Purpose of this Class

This Course

- ▶ **This course will**

- ▶ Identify the major issues facing technology and online firms.
- ▶ Analyze strategies these firms could take.
- ▶ Look at examples of real-life firms and their evolution.

- ▶ **We take a strategic approach**

- ▶ “Developing a broad formula for how a business is going to compete, what its goals should be, and what policies will be needed to carry out these goals” (Porter, *Competitive Strategy*)

What you will learn

- ▶ **Economic tools**
 - ▶ Portable ideas to enable you to analyze strategic problems
 - ▶ Think about key factors in an industry from first principles.
- ▶ **The key issues facing specific industries**
 - ▶ Through case studies you will learn about real-life firms
 - ▶ Learn about the fastest growing part of the economy
- ▶ **Broad skills**
 - ▶ How to think like an economist
 - ▶ How to argue and present clearly
- ▶ **Goal: train you to think rigorously, using theory and data, about new strategic situations you will encounter.**

How I use Strategy

- ▶ **Auction design**
 - ▶ Design procurement systems for governments and car firms.
- ▶ **Pricing policies**
 - ▶ Develop dynamic pricing algorithms for airlines.
- ▶ **Reputation**
 - ▶ Analyze how reputation provides incentives to investment.
- ▶ **This is a broad based class**
 - ▶ But choice of topics sometimes reflects my interests

Logistics and Teaching Method

Lectures etc

▶ Lectures

- ▶ Tue, Thurs 9:30-10:45 (Lecture 1), 11:00-12:15 (Lecture 2)

▶ Contacting me

- ▶ Please feel free to email me – sboard@econ.ucla.edu
- ▶ Quick questions: right after class
- ▶ Longer discussions: office hours MW 1-2pm, Bunche 9353.

▶ Website

- ▶ Syllabus, slides, readings can be found on
www.econ.ucla.edu/sboard/teaching/tech_15/tech_15.html

Labs

- ▶ **Groups**
 - ▶ Form group with 3 people in your lab section (TAs can match)
- ▶ **Lab lecture**
 - ▶ Case studies with guests
 - ▶ Start with student presentation; then open discussion
 - ▶ Attendance is compulsory, as is participation
- ▶ **Lab section**
 - ▶ Used to practice presentations
- ▶ **The TAs are**
 - ▶ Zhuoran Lu – luzhr2012@gmail.com
 - ▶ Xinyu Fan – fanxy@ucla.edu
 - ▶ Nick Doran – ndoran88@g.ucla.edu

Some of the Guests

- ▶ **Terry Kramer, BA UCLA Econ, MBA Harvard**
 - ▶ Ambassador to World Conference on International Telecoms
- ▶ **Barry Eggers, BA UCLA Econ, MBA Stanford**
 - ▶ Founder and MD of Lightspeed Venture Partners
- ▶ **Neil Pardasani, BA UCLA Econ, MBA Kellogg**
 - ▶ MD and Partner, BCG
- ▶ **Kieran Nolan, BA UCLA Econ, MBA Pepperdine**
 - ▶ VP, AT&T's Construction and Engineering
- ▶ **James Min, BA UCLA Econ, MBA Chicago**
 - ▶ Partner, Telos Advisors

Cases we may cover

- ▶ Square
- ▶ Netflix
- ▶ Facebook
- ▶ Twitter
- ▶ eBay vs Amazon
- ▶ Microsoft adCenter
- ▶ Yelp
- ▶ Movie Theatres
- ▶ Android

Content

- ▶ You are responsible for assigned readings and everything that comes up in class
 - ▶ Sometime, key points will be things I say
 - ▶ Often, they will be things your peers say
- ▶ Prerequisites
 - ▶ Econ 11, 41 and 101
 - ▶ Interest and enthusiasm.
- ▶ Remarks
 - ▶ We will use calculus
 - ▶ You are responsible for economic logic, not for the math

Course Evaluation

- ▶ **The course is not about**
 - ▶ Awarding grades
 - ▶ Screening students
 - ▶ Making you prove how hard you can work
- ▶ **It is about**
 - ▶ Becoming a better economist
 - ▶ Improving your presentation/rhetorical skills
 - ▶ Learning from your classmates

Course Evaluation

- ▶ **30% Case write-ups (in group)**
 - ▶ Short answer questions each week.
 - ▶ 3 pages max, 1.5 spacing, font 11.
 - ▶ We will grade 4 of the 9 cases (you can drop lowest)
- ▶ **35% Final paper (in group)**
 - ▶ Mini case study of firm you pick
- ▶ **35% Final**
 - ▶ 3 hour case write up;
 - ▶ Closed book, but allowed 10 sides (5 pages) of notes
- ▶ **Lab grades: 100% participation**
 - ▶ Case discussions, participation and presentations

Teaching Method

- ▶ **Theoretical approach**
 - ▶ Start from first principles
 - ▶ Informs what issues we should be concerned with
 - ▶ *But* predictions may be ambiguous, or theory may be wrong
- ▶ **An empirical approach**
 - ▶ Look at examples and find common elements of strategic decisions
 - ▶ Embrace richness of real life problems
 - ▶ *But* lose can lost the big picture, may mistake skill for luck, hard to identify key decisions,
 - ▶ Should you just imitate successful firms?
- ▶ **The challenge**
 - ▶ Integrate the two approaches!

Feedback

- ▶ This is a new, evolving course.
- ▶ Your feedback and suggestions regarding the course are very welcome at any time (email, in person etc).
- ▶ I will solicit preliminary feedback from the class during week 4.

Materials

- ▶ **Highly recommended**
 - ▶ Shapiro and Varian, “Information Rules”.
- ▶ **More formal background**
 - ▶ McAfee, “Competitive Solutions”
 - ▶ Cabral, “Introduction to Industrial Organization”
- ▶ **Case studies**
 - ▶ Course pack on website.
- ▶ **Articles**
 - ▶ Links on website (let me know if they are broken)
- ▶ **Slides**
 - ▶ Posted online



Information Rules: A Strategic Guide to the Network Economy

Carl Shapiro Hal R. Varian

087584863X / Hardcover / List Price \$ 40.0 / Harvard Business Review Press

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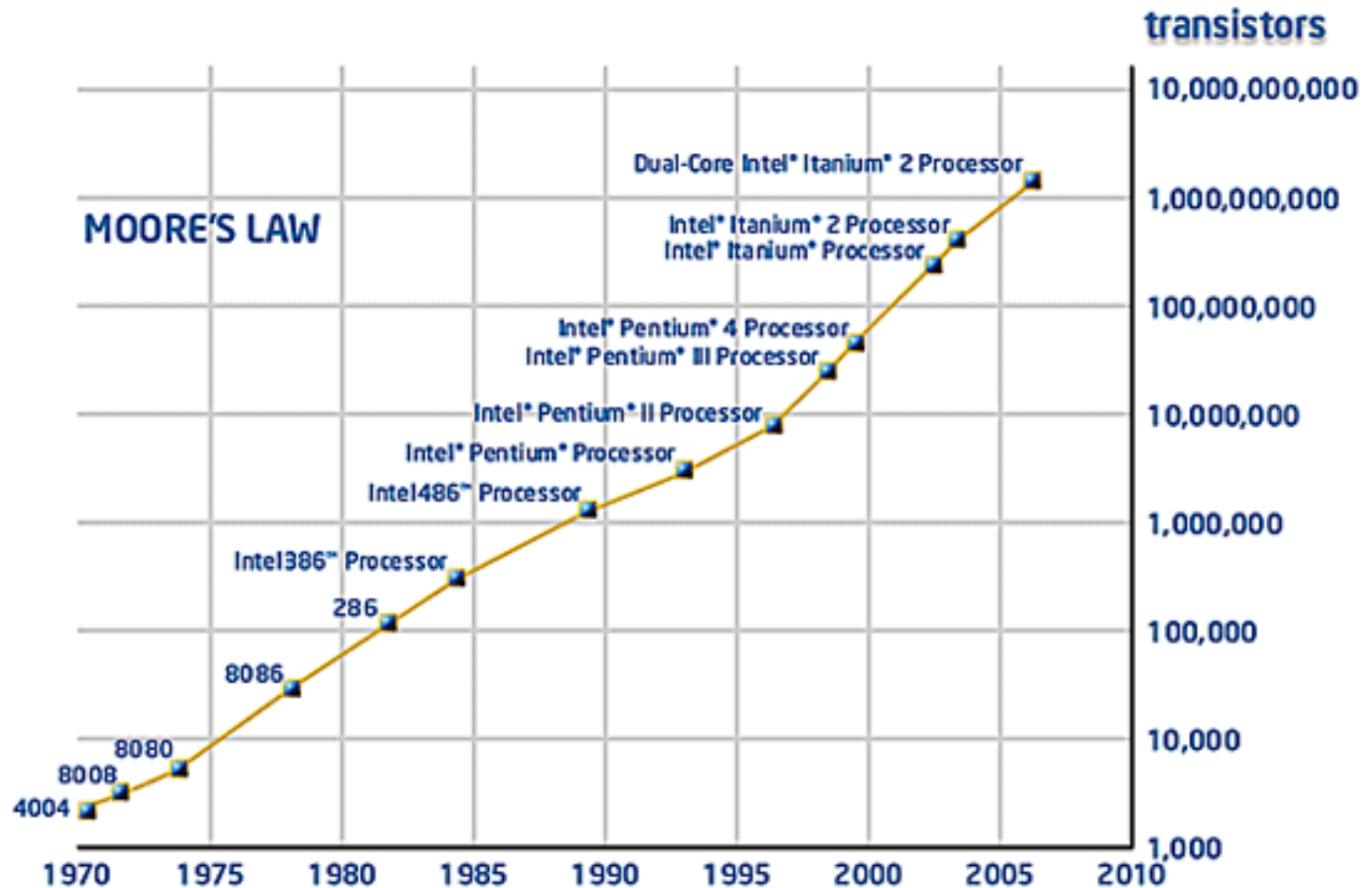


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Amazon Marketplace Exclude / Preferred	New	1-2 business days		\$4.29	\$3.99	\$ 8.28	Go to Amazon Marketplace
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ebay Exclude / Preferred	New	Available		\$28.67	Free	\$ 28.67	Go to ebay
Bookbyte Exclude / Preferred	New	Available		\$26.40	\$3.65	\$ 30.05	Go to Bookbyte
Amazon Exclude / Preferred	New	24 hours		\$25.49	\$4.98	\$ 30.47	Go to Amazon
bookdepository.com Exclude / Preferred	New	Available - dispatched from the UK in 2 business days		\$32.11	Free	\$ 32.11	Go to bookdepository.com



Technology Changes Everything

Technological progress...

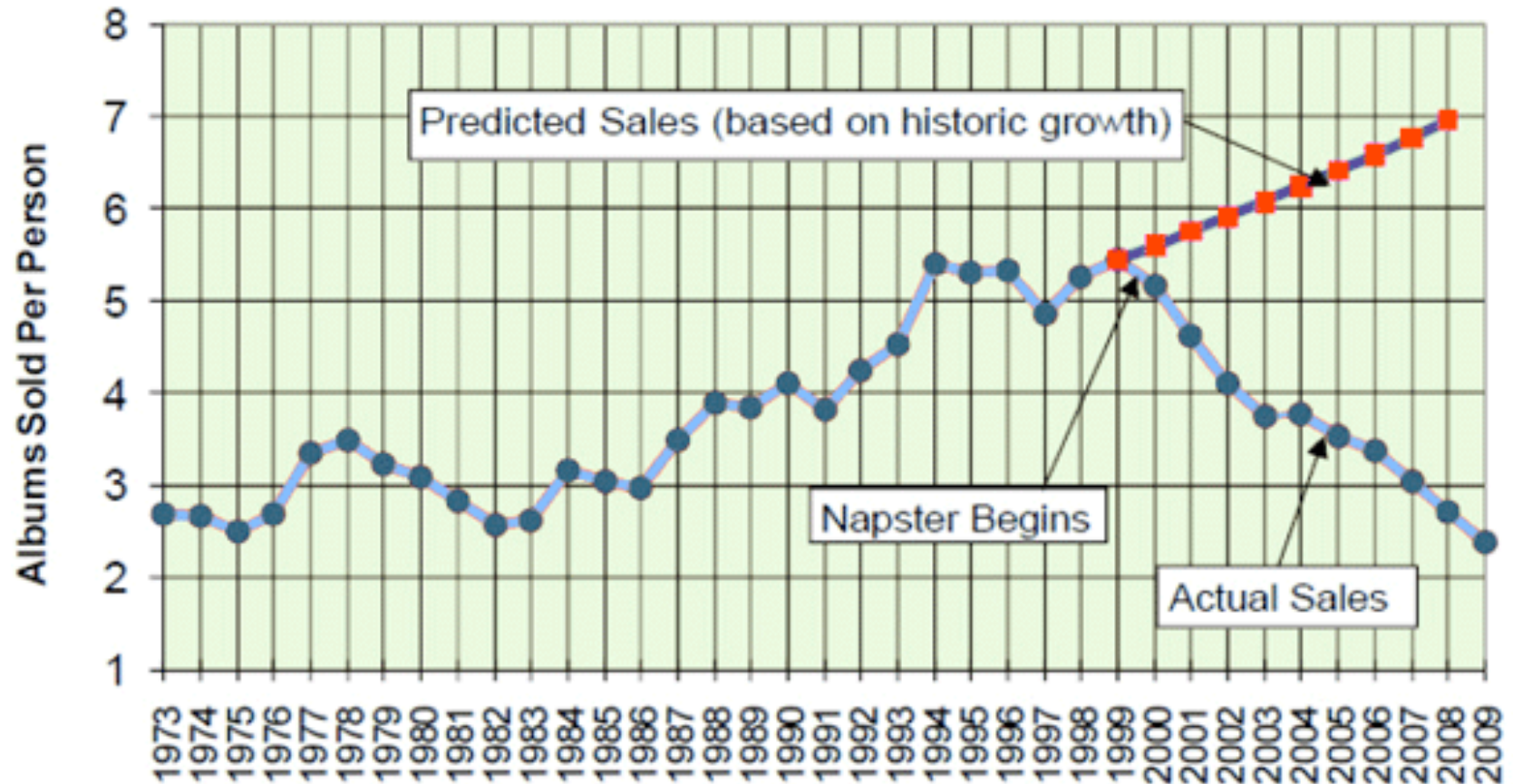


The birth of new firms...



The end of others....

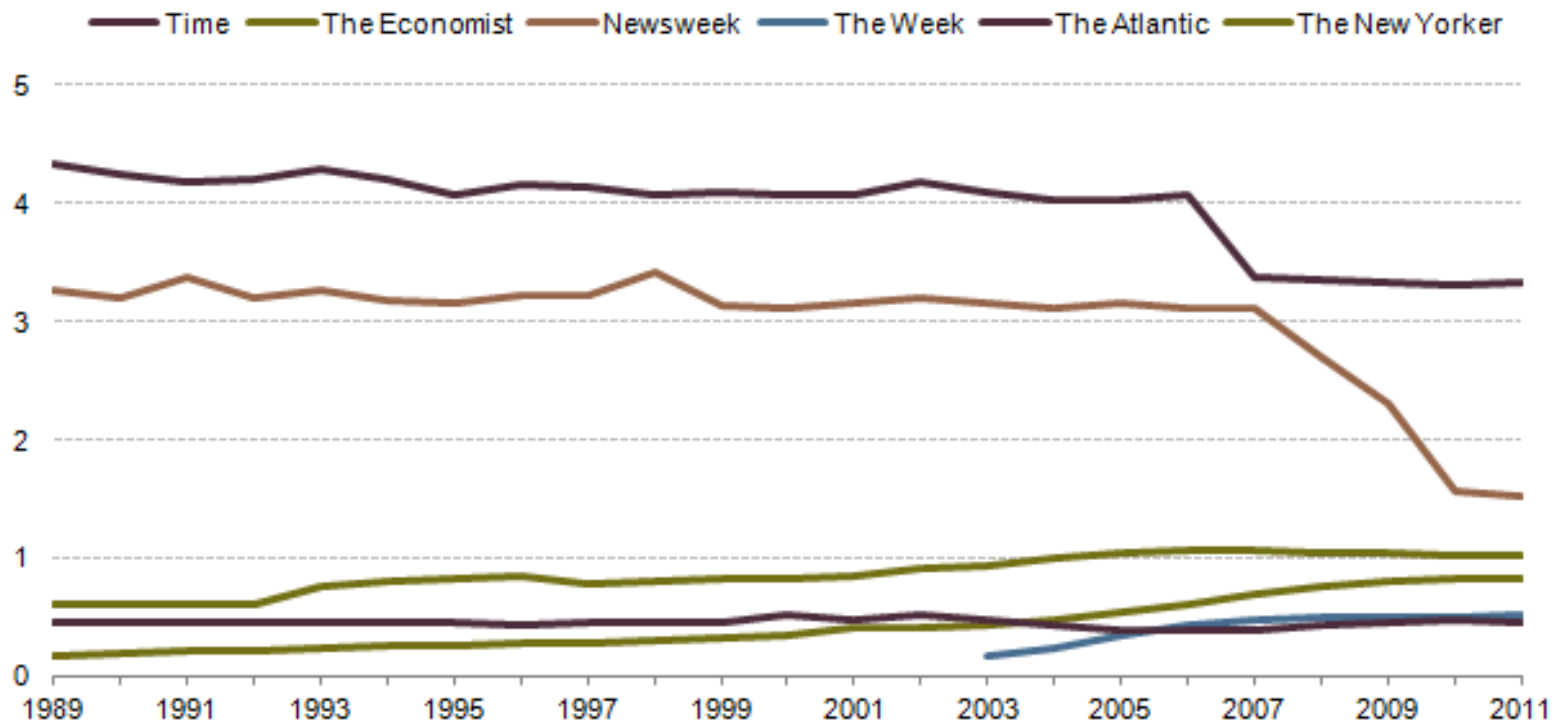
Figure 1: US Album Sales (incl dig singles)



And others...

News Magazines Stabilize Their Overall Circulation

Average Overall Circulation in Millions



Source: Audit Bureau of Circulations, FAS-FAX report for consumer magazines

PEW RESEARCH CENTER'S PROJECT FOR EXCELLENCE IN JOURNALISM
2012 STATE OF THE NEWS MEDIA

Availability of data...

Peak Break-Up Times

According to Facebook status updates



David McCandless & Lee Byron
InformationIsBeautiful.net / LeeByron.com

source: searches for "we broke up because"
taken from the infographic ultrabook
The Visual Miscellane um

Technology Changes Everything....
Except Economics

Overview

Groundwork

Industry Analysis
Competitive Advantage
Information Goods
Monetization

Sources of Competitive Advantage

Switching Costs
Network Effects
Platform Markets

Tools for Online Economies

Dynamic Pricing
Reputation Mechanisms

Versioning

- ▶ Intuition suggests that firm will charge higher price if good is more expensive to make
- ▶ But firm may pay money to create bad version of product
- ▶ **Example: IBM Laserprinter**
 - ▶ IBM inserted chip to halve speed of printer.
 - ▶ Then reduced price and marketed to households.
 - ▶ Inefficient but helped discriminate. Sold “Series E” to home market without cannibalizing professional model.
- ▶ **Often seen with websites (e.g. NYT, Salon)**
 - ▶ Have to pay or view ad to view all site.
- ▶ **Blog Exercise: provide an example of versioning.**

Lock-in and Switching Costs

- ▶ **Why did MS pay \$400m for Hotmail in 1997?**
 - ▶ Hotmail had no source of revenue.
 - ▶ Why not lure all customers to MS email?
- ▶ **Hotmail's customers were locked in**
 - ▶ Have thousands of old messages.
 - ▶ File systems and contacts set up.
 - ▶ People know your email address.
- ▶ **Gmail minimizes switching costs when joining**
 - ▶ Import contacts and old emails.
 - ▶ Forward emails for three months.
- ▶ **...but raise switching costs when leaving?**

Network Effects

- ▶ **AOL Instant Messenger was launched in 1997.**
 - ▶ People had “Buddy List”.
 - ▶ Could chat with friends online.
- ▶ **Network effects very important**
 - ▶ I only want AIM if my friends have AIM.
 - ▶ Need to solve coordination problem.
 - ▶ Hard to break into market.
- ▶ **Have different instant messenger systems**
 - ▶ AIM, G-chat, Yahoo messenger, MSN messenger, Skype, ICQ.
- ▶ **Interoperability**
 - ▶ In 2006, Yahoo and MSN opened up to each other.

Platform Markets

- ▶ I found my apartment through Westside Rentals
 - ▶ Charges \$60 for two months membership to search.
 - ▶ Free for landlords to post.
- ▶ Example of platform market (or two-sided market)
 - ▶ Facilitate interaction between two (or more) different groups.
- ▶ Why choose this pricing?
 - ▶ Why not charge posters (like monster.com with jobs)?
- ▶ Is it vulnerable to competitors?
 - ▶ Issue: Need to have both sides of the market.

Behavior-Based Pricing

- ▶ Amazon knows about customers from past behavior.
 - ▶ Frequent customers buy lots of DVDs
 - ▶ Infrequent customers rarely buy DVDs
- ▶ Suppose a customer looks at “The Wire” Box Set.
 - ▶ Should Amazon charge different prices to different customers?
- ▶ Of course! They should charge more to customers with higher willingness to pay.
- ▶ But what if frequent customers find out? Will they still be frequent?
- ▶ In September 2000, Amazon was caught doing this. It resulted in a lot of publicity (Wash Post, Sept 27th).