Dynamic Pricing for In-App Purchases

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Warning: Scientific Revenue is a Silicon Valley Company

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The Small(ish) Thing We're Doing Right Now

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(example from existing game, Not an SR customer)

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Retail Strategies are Starting to Emerge

What Bill Sees

What Bill's Wife Sees

(example from existing game, Not an SR customer)

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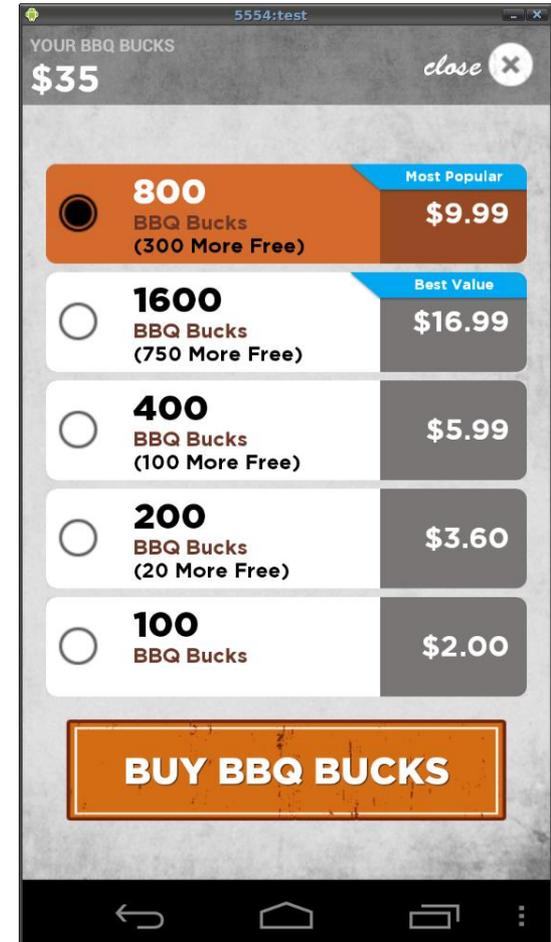
Why This Isn't So Small

The Data

U.S.

- 58% of Americans play video games

- Average age of players: 30

- 62% of all gamers are adults

- 68% are above 18 and older

- 45% are female (up from 42% in 2012) and are usually over 18

- Average of 2 gamers per household

- 51% of households own at least one console

- Average age of purchaser: 35

- 77% of gamers play at least one hour a week

- 36% play games on their smart phone

- Parents are involved in their kids' game purchases 89% of the time

- 79 percent of parents place time limits on video game playing, compared with 78 percent who limit Internet usage and 72 percent who limit TV viewing

The good news is that we've finally gotten our priorities in order. According to Nielsen, the average U.S. gamer age 13 or older spent 6.3 hours a week playing video games during 2013. That's up from 5.6 hours in 2012, which was up from 5.1 hours in 2011. If you like fun, we're trending in the right direction.

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Tencent Powers Ahead
Mobile games lift Chinese Internet giant

Tencent's quarterly net profit

5.51
Estimate

8 billion yuan

6

4

2

0

2012 '13 '14
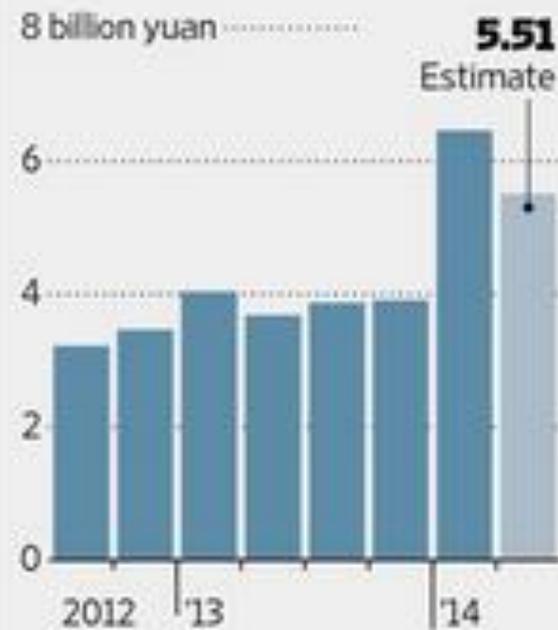
Market capitalization*
in billions of dollars

Facebook
$190

**Tencent
$159**

Twitter
$25.4

Nintendo
$12.7

* As of Aug. 12

Note: 1 billion yuan = $162.5 million
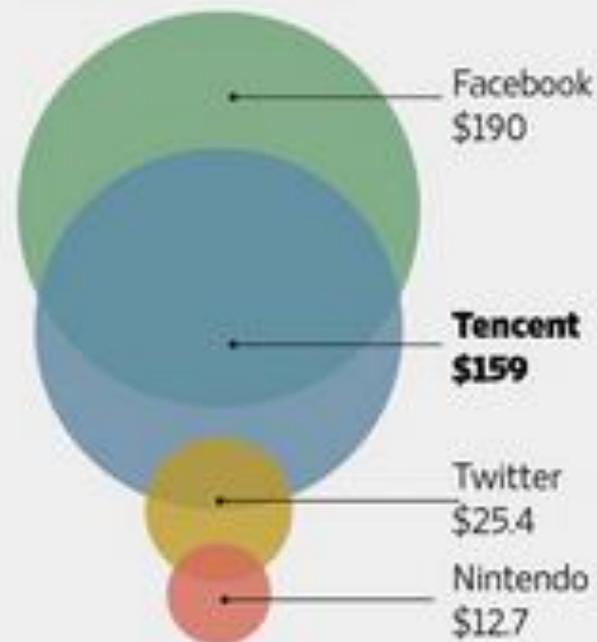
Sources: Tencent (net profit), Thomson One Analytics (estimate and market capitalization)
The Wall Street Journal

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Setting Prices

Hospitality and Retail
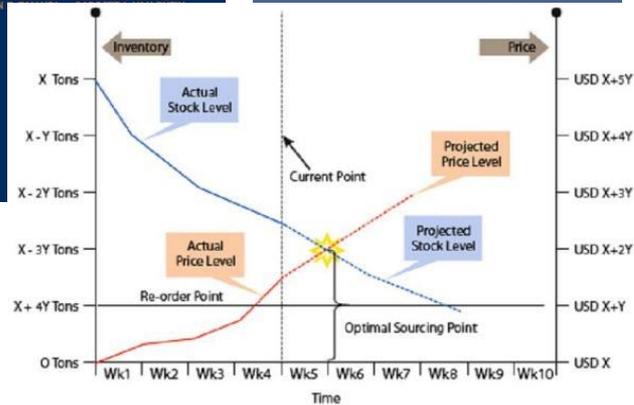
Typical Digital Goods Company

In the World of Airlines

- *Non-negotiated pricing*
- *Flexible return policy*
- *Segmentable market demand*
- *Highly competitive markets / little or no vendor loyalty*
- *Generally available ratecards*

- *Pre-existing anchoring on pricing and rates*
- *Infrequent, large-dollar amount purchases*
- *Customers return months or years later*

- *Low variable costs*
- *Fixed capacity*
- *Inventory can be changed from one product to another*
- *Perishable inventory*

THE THEORY AND PRACTICE OF

REVENUE MANAGEMENT

KALYAN T. TALLURI   GARRETT J. VAN RYZIN

Kluwer Academic Publishers
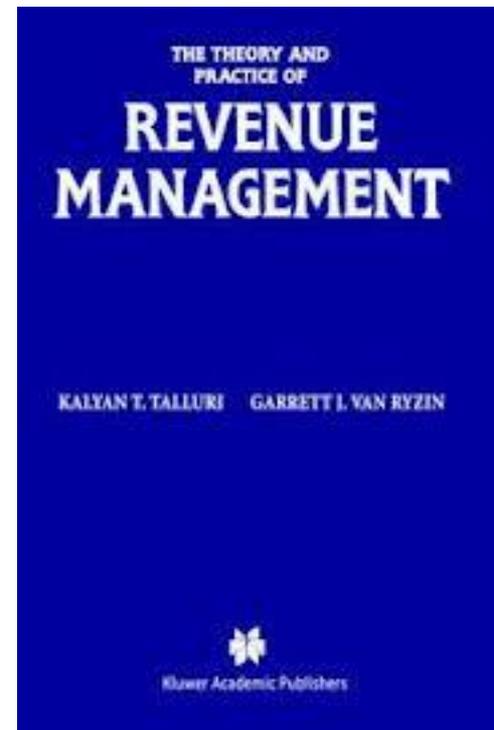
In the World of Digital Content

- ~~Non-negotiated pricing~~
- *Flexible return policy*
- *Segmentable market demand*
- ~~Highly competitive markets / little or no vendor loyalty~~
- ~~Generally available ratecards~~

- ~~Pre-existing anchoring on pricing and rates~~
- ~~Infrequent, large-dollar amount purchases~~
- ~~Customers return months or years later~~

- ~~Low variable costs~~
- ~~Fixed capacity~~
- ~~Inventory can be changed from one product to another~~
- ~~Perishable inventory~~

"One sided haggling" -- Ability to offer different prices at different times.

Market conditions change depending on user engagement.

Pricing can be highly personalized and based on deep knowledge of individual consumer

Anchoring depends on vertical but is mostly mitigated by virtual currency formulations

Large numbers of small transactions occurring close together in time

Costs mostly variable

Unlimited capacity and inventory

Durable inventory

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A Phone or Tablet …

- … Is the way in which digital content is consumed
- … Is a long-term persistent identifier that can be associated with behavior
- … Contains a vast amount of information about the person (which changes over time)
- … Is a personalized point-of-sale-device with built in confidentiality and security

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Plus, Behavior Modification

Plus, Feedback Systems

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Finally we are in a position to answer that age old question …

Which is stronger

Intertemporal Price Discrimination

or

Operant Conditioning

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GAMASUTRA
The Art & Business of Making Games

Predicting Churn: When Do Veterans Quit?

By Dmitry Nozhnin

In the follow-up to his original article on predicting player churn, Dmitry Nozhnin, head of analytics and monetization at Russian MMO publisher Innova, shares his methodology for predicting when veteran players will quit the game -- identifying when players will drop two to three weeks before they do with 95 accuracy, all carried out in the live environment of the Russian version of NCSoft's Aion.

Predicting Churn:
When Do Veterans Quit?

by Dmitry Nozhnin

In my previous article, I showed the process we developed for predicting churn of our freshest users, who just registered for the game, based on data collected during the first couple of days of their adventures. However, on the other end of spectrum are seasoned gamers who have spent months and months in the game, but for various reasons decided to abandon it. Predicting their desire to leave the game is possible, and in this article, we're sharing our data mining methodology.

Tech Side

How would you change your prices if you knew someone was about to leave?

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The Immense Variability in Human Behavior

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Avg. Basket Size by Social Game Genre (Germany)

Avg. Purchases for City Building Games

Monthly ARPPU for Social Game Genres (Brazil)
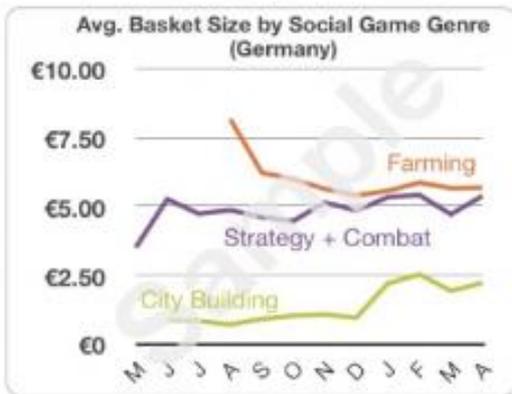
DEVICE	% OF TOTAL
✅ Total	
✅ Nexus 7 (flo)	6.0%
✅ Galaxy S4 (jfltevzw)	4.0%
✅ Nexus 7 (grouper)	4.0%
☐ HTC One (m7)	4.0%
☐ Galaxy Note3 (hlteatt)	3.0%
☐ Nexus 5 (hammerhead)	2.0%
☐ Galaxy Note3 (hlte)	2.0%
☐ HTC One (M8) (htc_m8)	2.0%
☐ HTC One (M8) (htc_m8wl)	2.0%
☐ Galaxy S4 (jflteatt)	2.0%
☐ Galaxy S4 (jfltetmo)	2.0%
☐ Galaxy Note3 (hltespr)	2.0%
☐ Galaxy S4 Active (jactivelteatt)	2.0%
☐ Galaxy S3 (m0)	2.0%
☐ HTC One (m7wls)	2.0%
☐ Galaxy S4 Mini (serranolte)	2.0%

Study: Higher resolution smartphone screens mean more in-app purchases

by **Dave Caolo**   Mar 21st 2013 at 5:30PM

The results of the study discussed in this post seem obvious when you think about it, but at least there's some empirical data to back it the findings. A study conducted by Pocket Gems suggests that people whose smartphones (including iPhones) have high-resolution screens are more

Exclusive: Nexus 7 monetizes better than other Android tablets, says TinyCo

COMMENT   f SHARE   🐦 Tweet   ✏ Scott Reyburn • Jan 17th, 2013   📋 Android, featured, Free-to-Play, Games, Google, in-app purchases, iOS, Monetization, Retention, Tablets

Mobile game developer TinyCo's monetization data finds that Google's Nexus 7 tablet generates 50 percent higher ARPU than the average Android tablet.

"It's encouraging for us," says Mike Sandwick, TinyCo's manager of strategic partnerships. "We have a reputation that's pretty unique in terms of our commitment to Android. It's continuing to pay off for us and Google is making these really great devices that have great user experiences like the Nexus 7 in terms of hardware. Jellybean is just awesome. We're very, very pro everything that's happening on Android right now, and we're very psyched to be able to keep developing for the platform."

TinyCo™

Histogram of as.numeric(spenders$calendarDaysUntilFirstSpend)
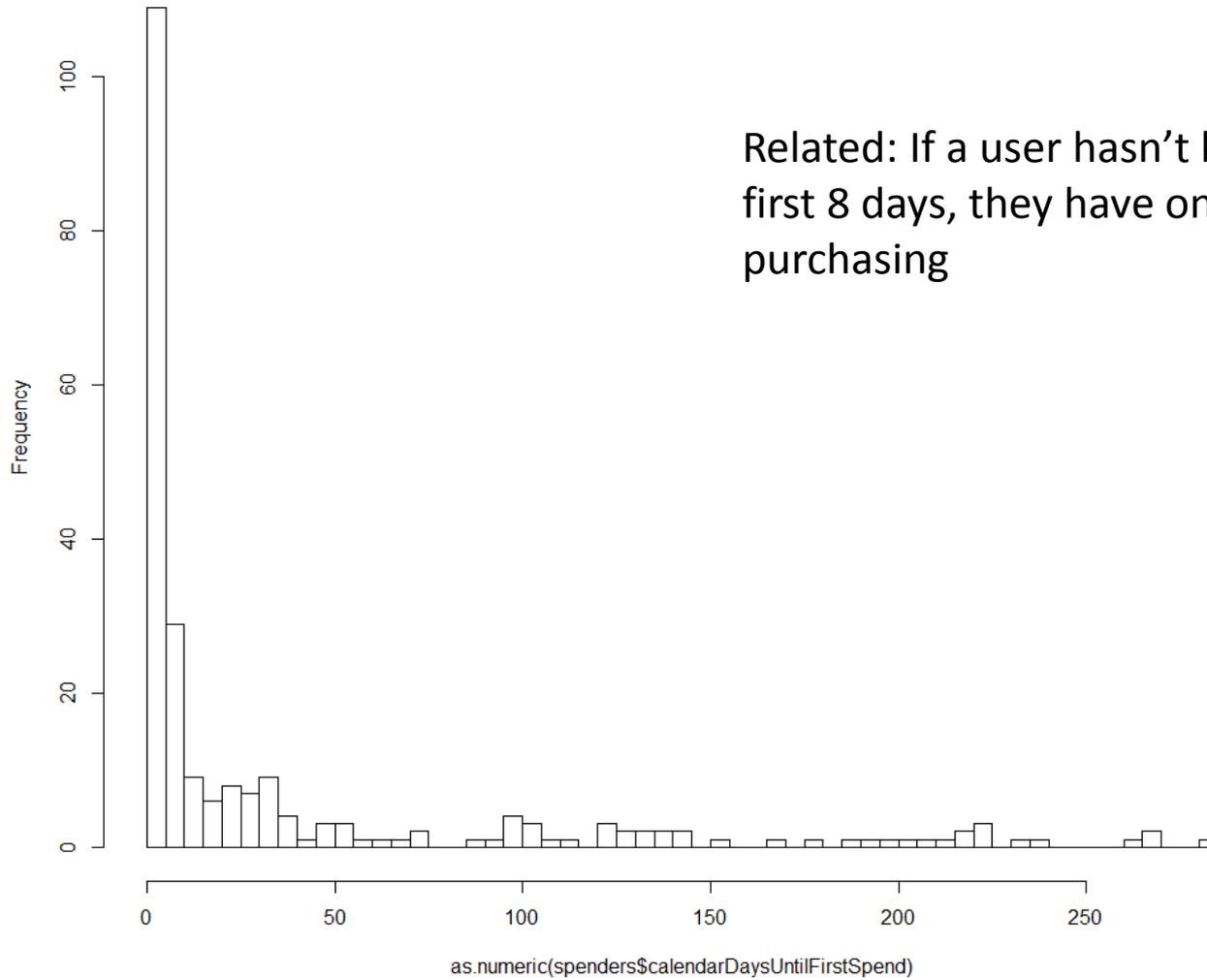
Related: If a user hasn't bought something in the first 8 days, they have only a 2% chance of purchasing

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The biggest spenders on mobile? Men who like console games

Video game analytics firm EEDAR has released some interesting new statistics on mobile game users -- including a few which may just overturn some of our preconceived notions and biases about the mobile audience.

According to EEDAR's recently released report drawn from data on 3,000 mobile and tablet users,

12 comments

More: **Social/Online, Smartphone/Tablet, Business/Marketing**

...es this ...oward ...enly ...rcent ...posed ...of all

Whales" ...end ...console ...bile ...k, with ...nt on consoles. So while this reaffirms the notion that many platforms, it also flies in the face of the idea that mobile

The More Apps a User Has Installed, The More Likely They Will Make an In-App Purchase. 55% of Users Who Have 6+ Apps Installed Have Made an In-App Purchase
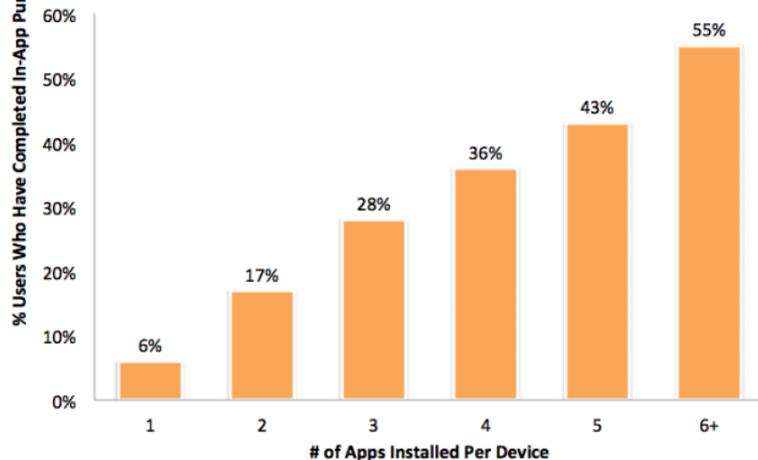
The More Game Apps A User Has Installed – The More Likely They Will Make an In-App Purchase. 64% of Users Who Have 6+ Game Apps Installed Have Made an In-App Purchase
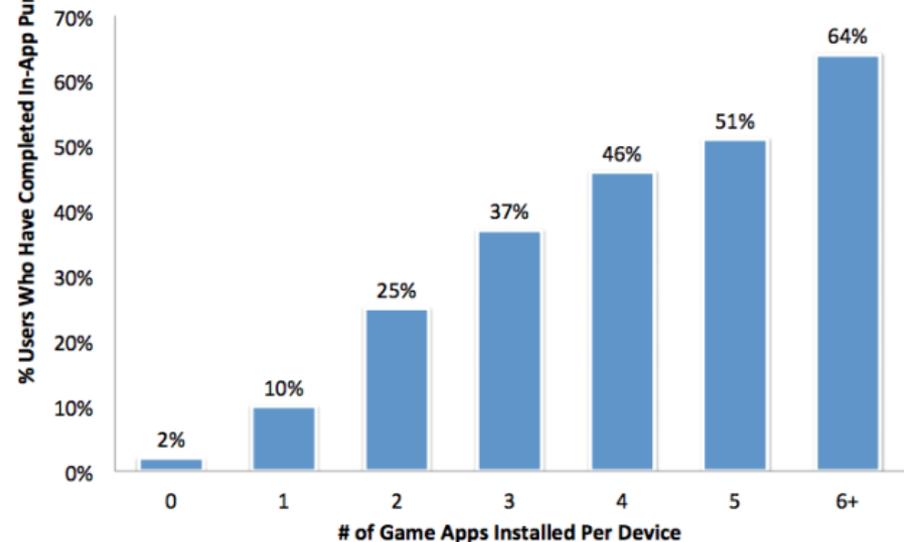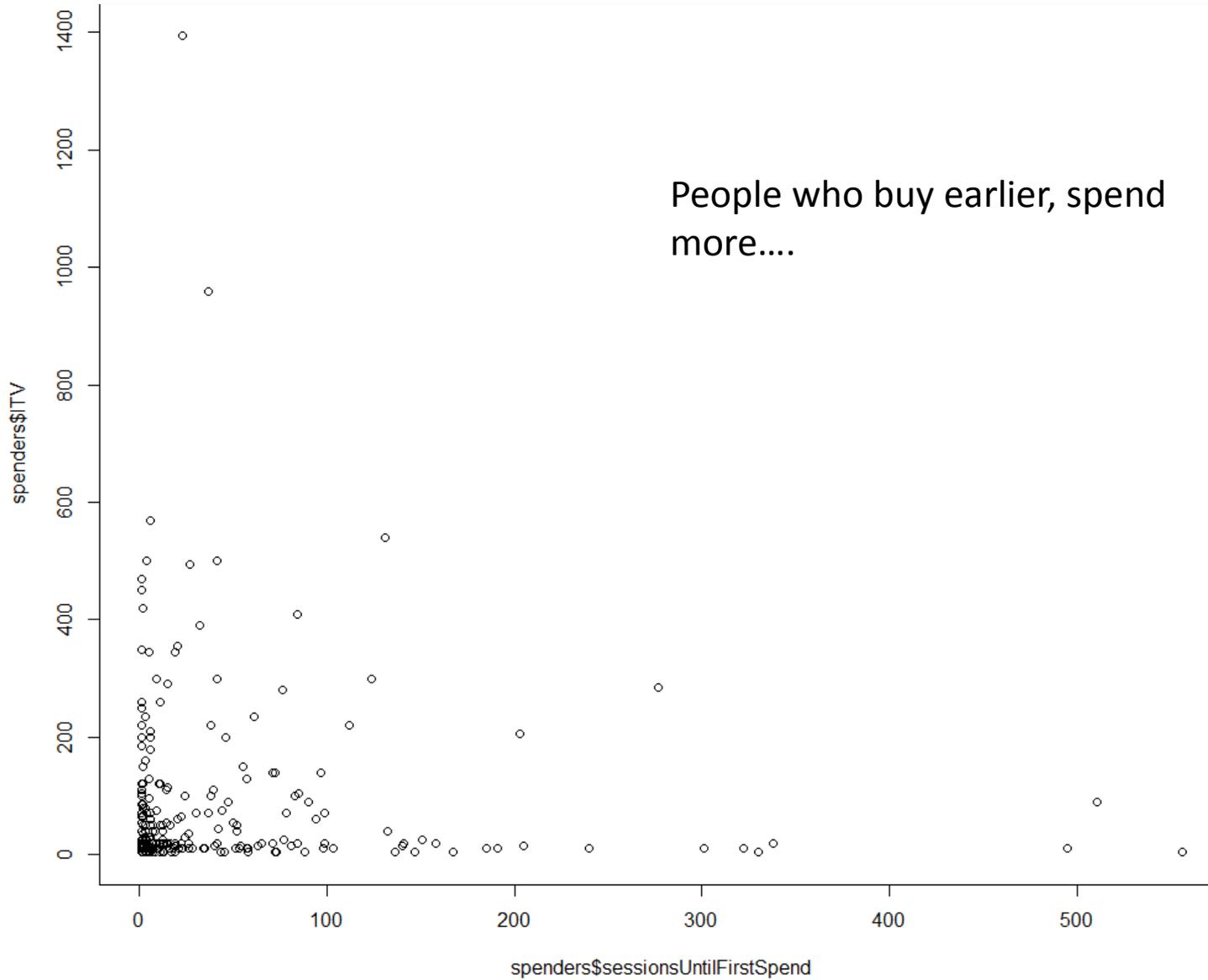
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People who buy earlier, spend more….

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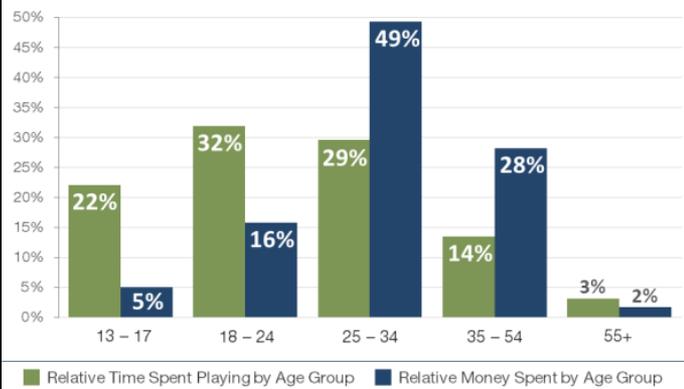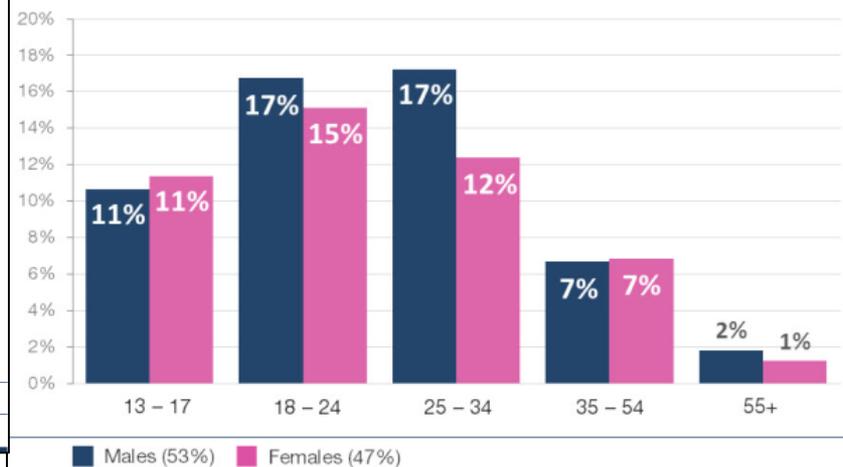
The Emerging Science of Human Behavior

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These Books Have Untested (but Testable) Theories and Hypotheses
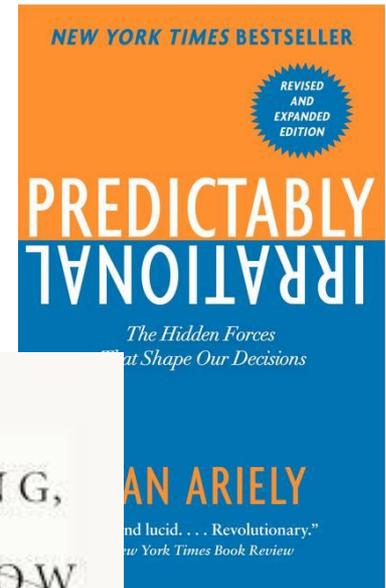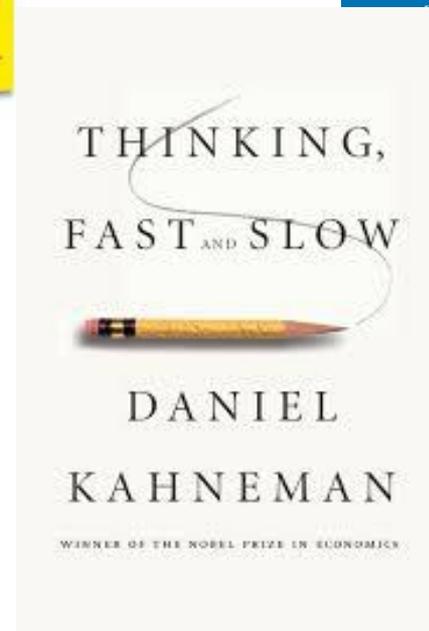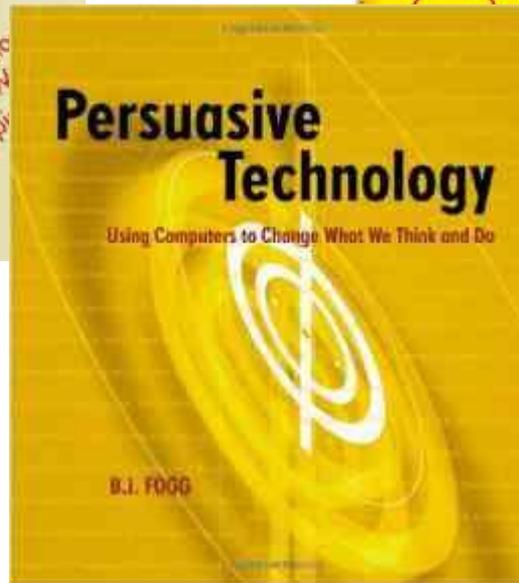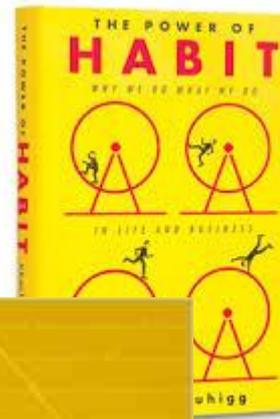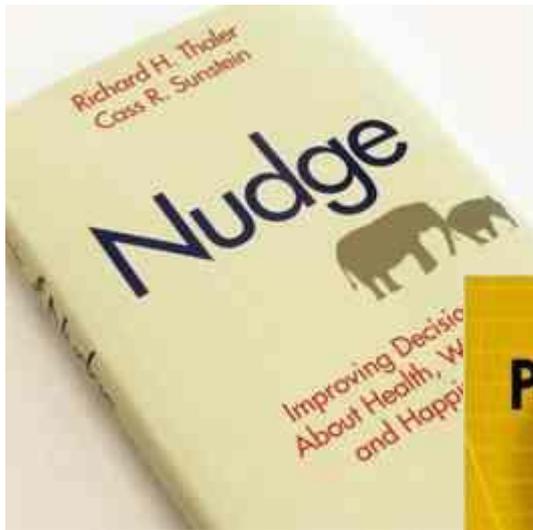
These Books **Also** Have Untested (but Testable) Theories and Hypotheses

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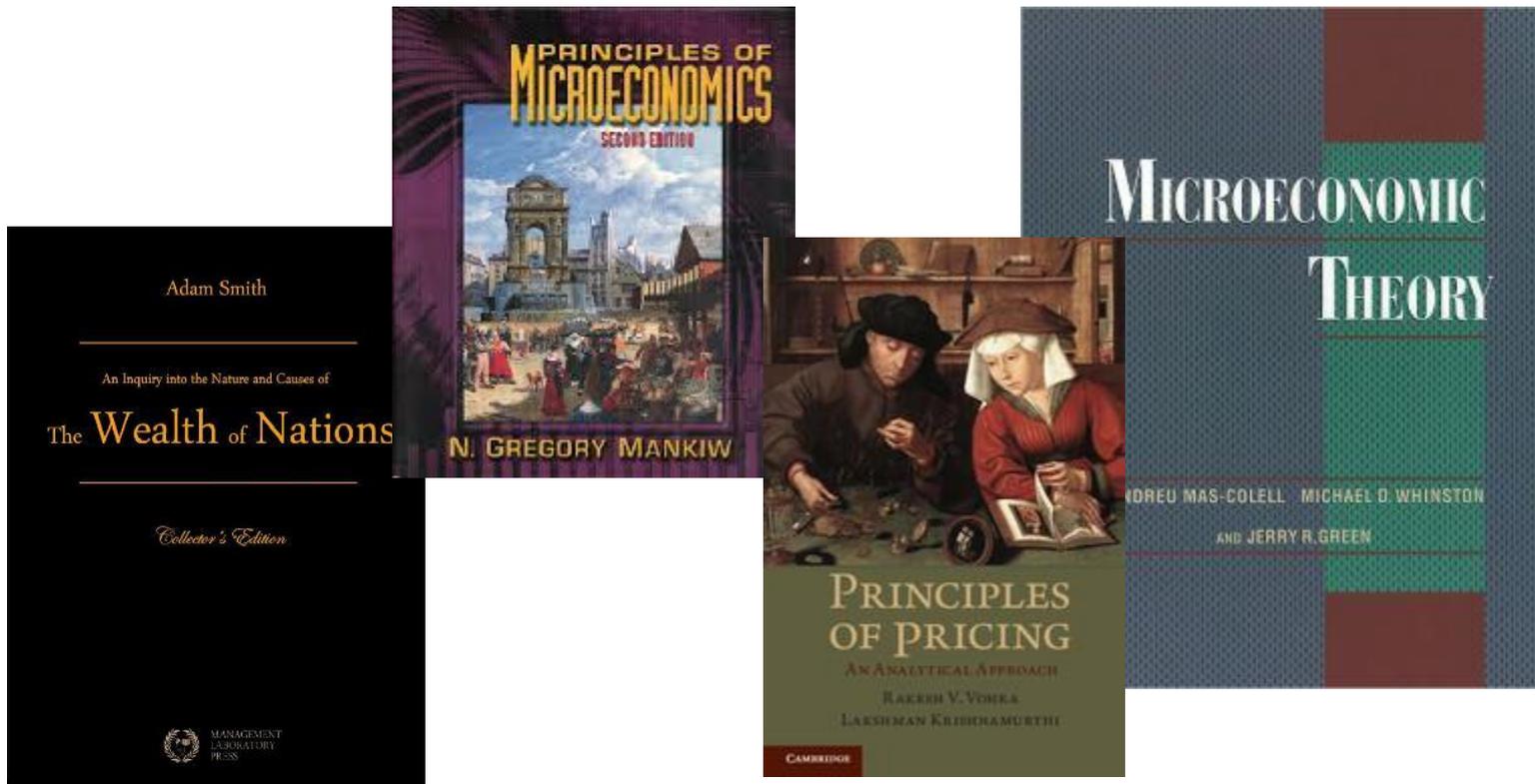
These Are Not Textbooks

Grandpa

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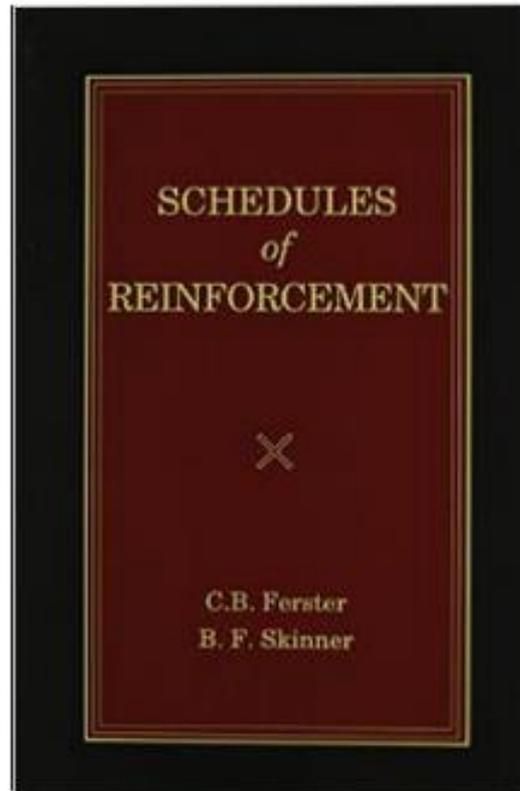
We Can Do Science Better

N = 224
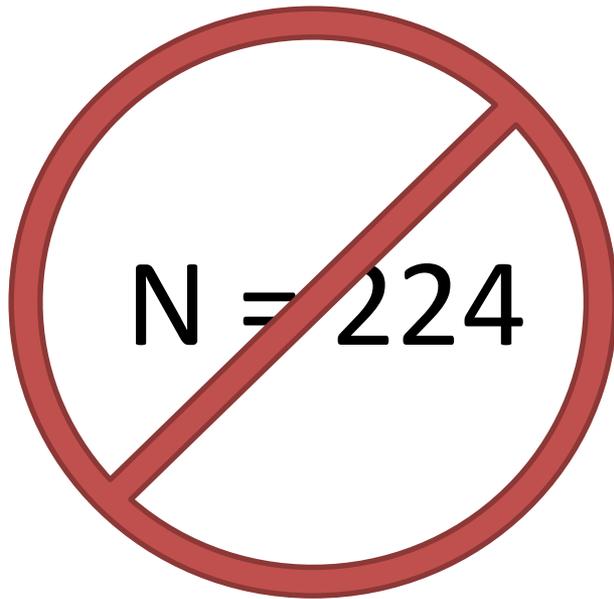
Research conducted over several decades has shown that violent media increase aggression. It is now time to move beyond the question of whether violent media increase aggression to answering the question why violent media increase aggression. The present research tested whether violent video games produce a hostile expectation bias—the tendency to expect others to react to potential conflicts with aggression. Participants (N = 224) played either a violent or nonviolent video game. Next, they read ambiguous story stems about potential interpersonal conflicts. They were asked what the main character will do, say, think, and feel as the story continues. People who played a violent video game described the main character as behaving more aggressively, thinking more aggressive thoughts, and feeling more angry than did people who played a nonviolent video game. These results are consistent with the General Aggression Model.

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Academic Collaborations

World class economist looking for game studios interested in exploring the fundamentals of currency design.

Topics of interest include:

- Coin size and divisibility.
- Maximum wallet sizes / inability to carry the money around.
- Limiting the total amount of currency in a game (for example, a loyalty currency. You can earn the coins, if they're out there)
- Transferability (stealing, gifting, ...)
- Universality (spendable everywhere or in select locations? Spendable at all times, or just sometimes)

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Right Now

bill@scientificrevenue.com

System Up and Running

Enormous Amounts of Semantically Rich and Clean Data Puddling Up

bill@scientificrevenue.com

Thank You

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