The Future of Everything

(including the relationship between consumers, businesses and institutions)

"*We, the People of United Data*"

Towards a New Constitution of Digital Markets

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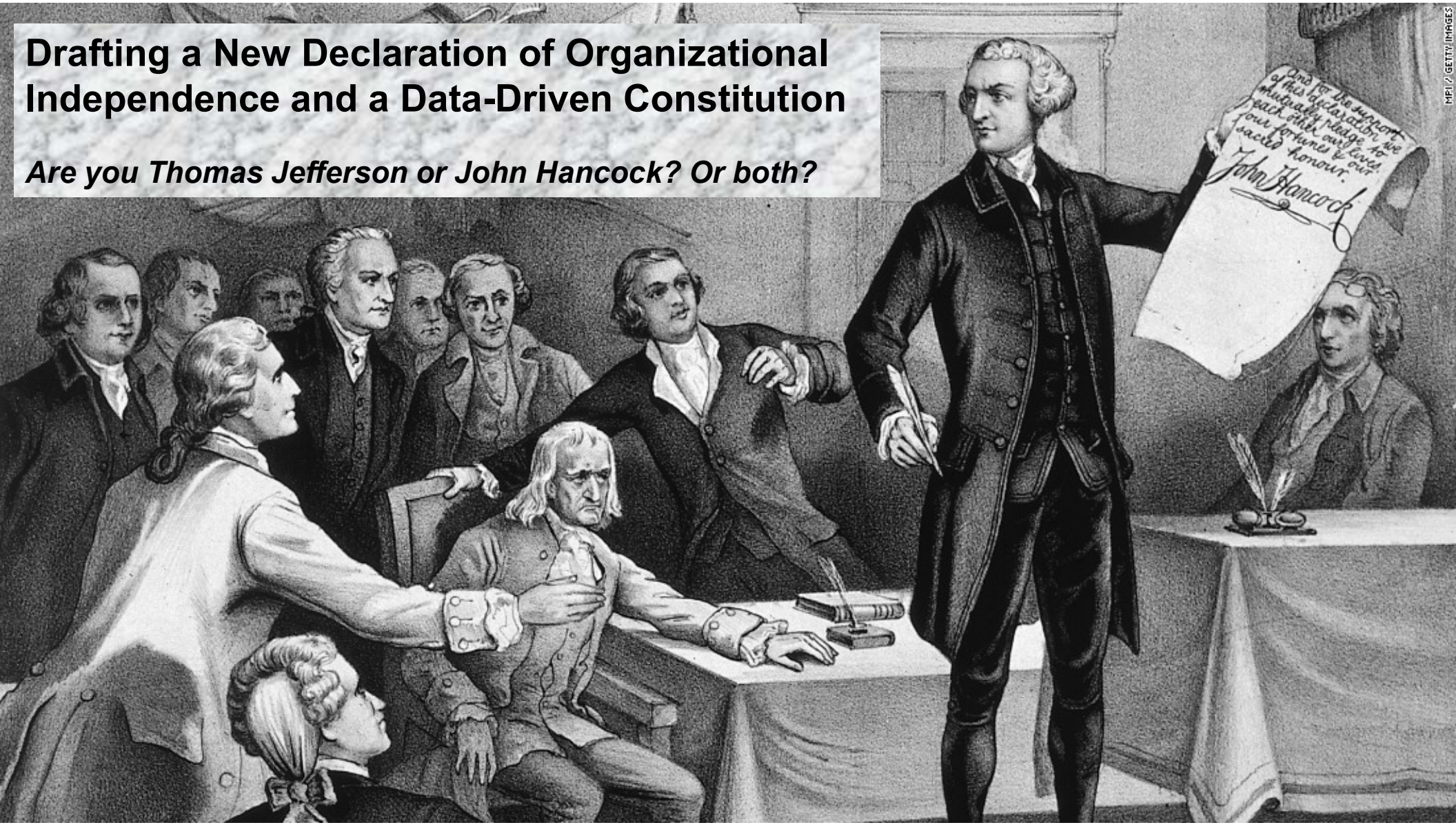
Drafting a New Declaration of Organizational Independence and a Data-Driven Constitution

Are you Thomas Jefferson or John Hancock? Or both?



Data, the new universal law of consumer communities

We the People (and the Algorithms) of the United Data,
in order to form a more perfect union…

The new consumer organization is an opposable thumb

From awareness to comparison, from selection to purchasing, from after-sales service to social sharing: all consumer activities are at your fingertips.

*Yet, most economic processes are organized around the **supply chain**.*

*Consumer organizations shall be in charge of organizing the **demand chain***

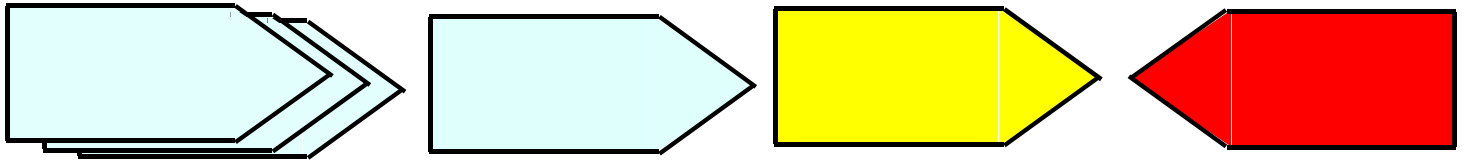
Consumers are no longer at the end of the physical supply chain. They are the first step of the digital «demand chain»

2000-2019

- Impact on "***Information asymmetries***"
- New forms of disintermediation, e-commerce, price comparison

But:

- Unchanged market structure between supply and demand



2020-2030

- Impact on "***Market Structure***"
- New forms of collaborative processes through data interoperability

And:

- Development of digital ecosystems, new value-added activities

From Consumer Protection to Consumer Aggregation

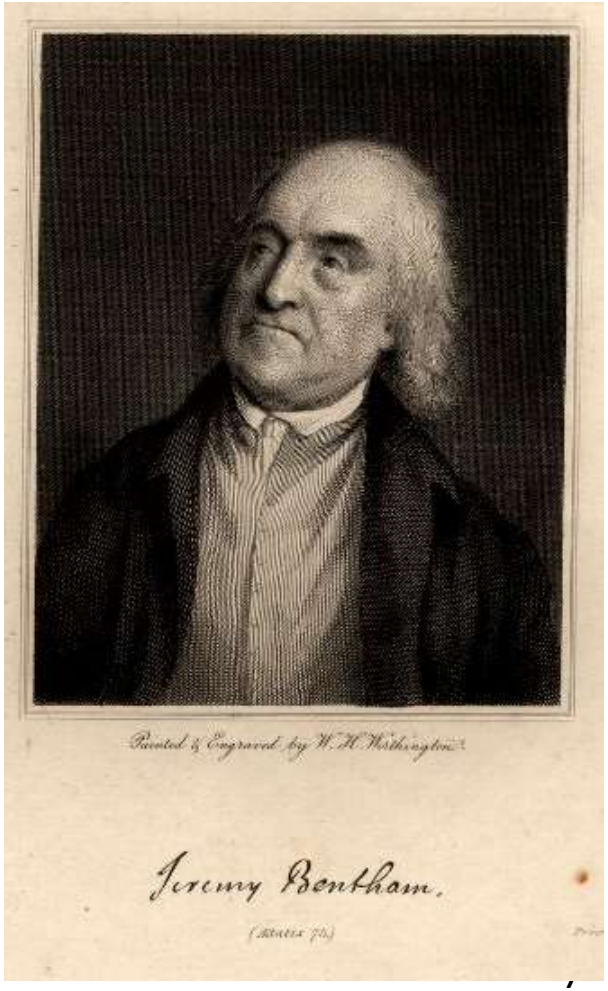
- *Since privacy is an economic good, then Consumer Data should be treated as liquid assets*

- Consumer organisations as entrepreneurs of customer data: making them accessible and liquid
- Consumer **Data Consolidation** within digital ecosystems (fragmentation destroys value)

- **Data Cartolarization**: tranching of data asset, of data-driven CDOs (Collateralized Debt Obligation)

Data Protection, Access, Sharing: why not «Exchange»?

- Shall we remain trapped in the polarity between «*Open Data*» or «*Private Data*»?
- Market efficiency and effective competition supervision require «**Tradable Data**»
- Towards a modern model of «**Digital Utilitarism**»



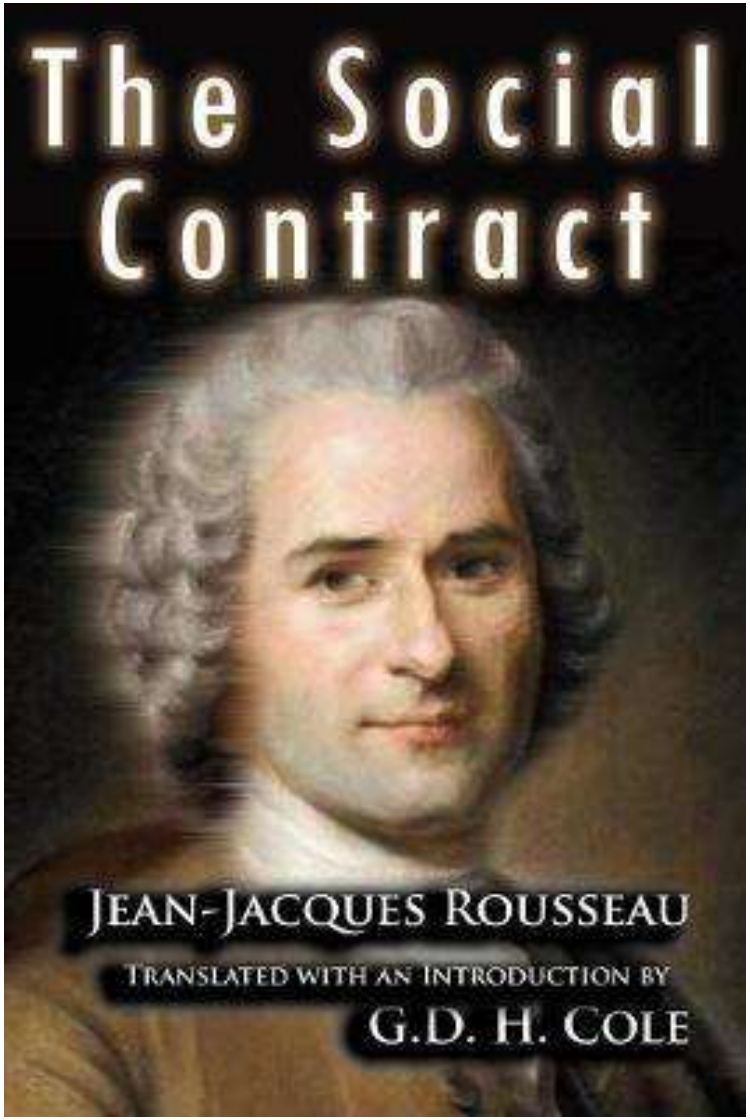
Linus' blanket & Rule of Law: the basic functions for markets of data

- *«Pacta sunt servanda»*
- *«Unicuique suum»*
  - **Contract enforcement**
  - **Property rights**
    - Smart Contracts
    - Distributed Ledger Technologies
- *«Alterum non ledere»*
- ***Remedy to market abuse?***

Data is not a format. Data is a contract

Data is a new “social contract”

- IOT/distributed multi-sensors
- 5G Networks
- AI/ML & robotic process automation
- Blockchain & Smart Contract (DLT)
- Regulations (e-invoicing, GDPR/PSD2, FFNPD)



Not all GAFAs' data look alike

Facebook leverages on **data appropriation** as a tool for profiling, engagement and customer lock-in

Google uses **open data** as a subsidy for selling human attention to merchants

Apple promises to **protect** and NOT to use **personal data**, as a differentiator to sell premium hardware products

Amazon tracks your interests and **listens to your conversations** via Alexa, but only to offer you better deals…

After all, you asked: «We want to be heard»

(OK, too much of a good thing…)

Forbes

Billionaires Innovation Leadership Money Business Small Busines

18,740 views | May 16, 2019, 02:43am

Why Amazon Alexa Is Always Listening To Your Conversations: Analysis

Jeb Su Subscriber
Enterprise & Cloud
Principal Analyst and Technology Futurist at Atherton Research

CNN BUSINESS Markets Tech Media Success Perspectives Videos Edition

Amazon reportedly employs thousands of people to listen to your Alexa conversations

By Jordan Valinsky, CNN Business

Updated 1838 GMT (0238 HKT) April 11, 2019

A “Data Broker Service” for consumers, businesses and institutions

1. **Open Platform for Consumer Data** with ad-hoc licensing to third-parties for demand-side efficiencies

2. **Governing Body of Marketplaces of Data-derivatives** (for vouchering/ couponing/ consumer group procurement, cybercurrencies, etc.)

3. **Chamber of Automatic Arbitration** (through smart contracts) for consumer protection

OPAL: «Bring algorithms to data, not data to algorithms»

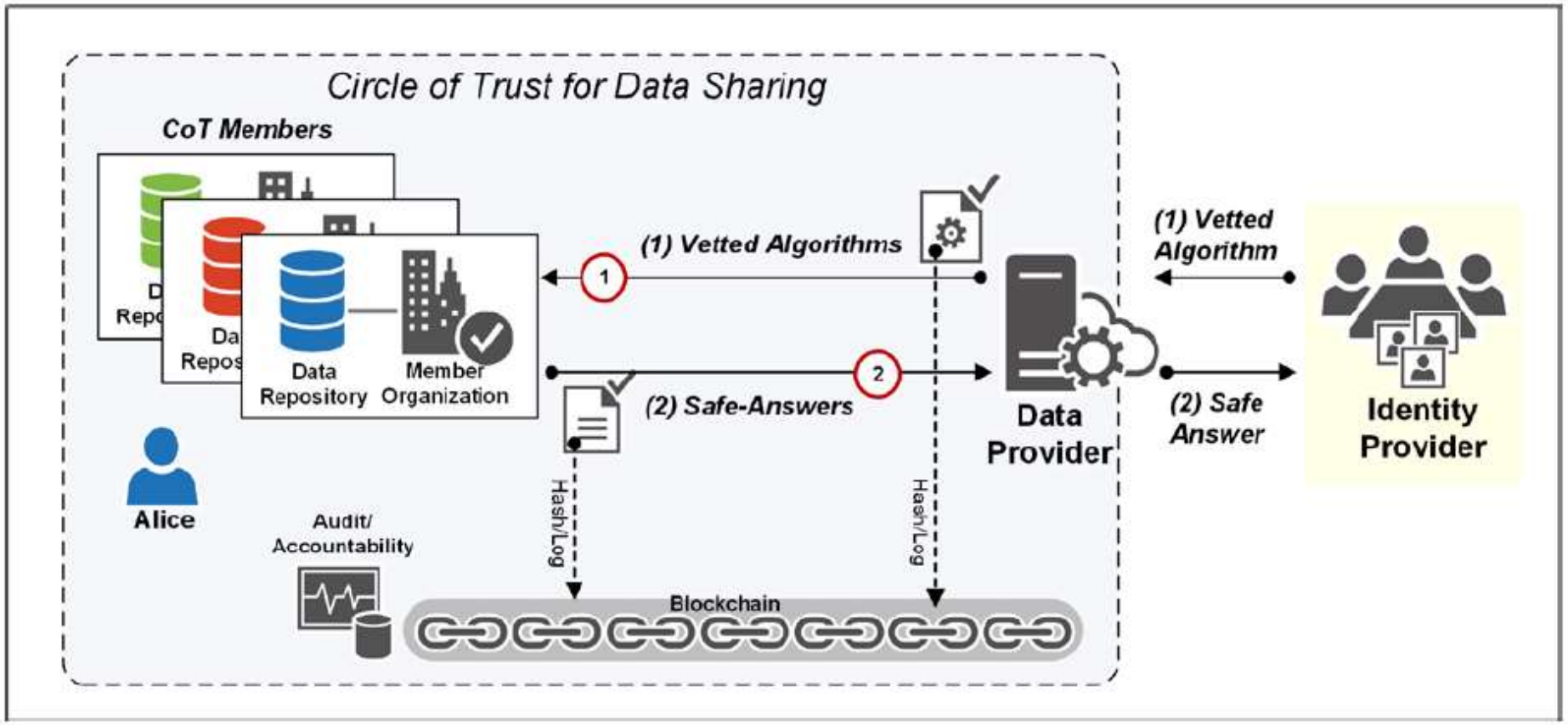


Figure 3: Circle of Trust for Data Sharing with a Data Provider as a proxy to the external world

Data access is reserved to «vetted algorithms»

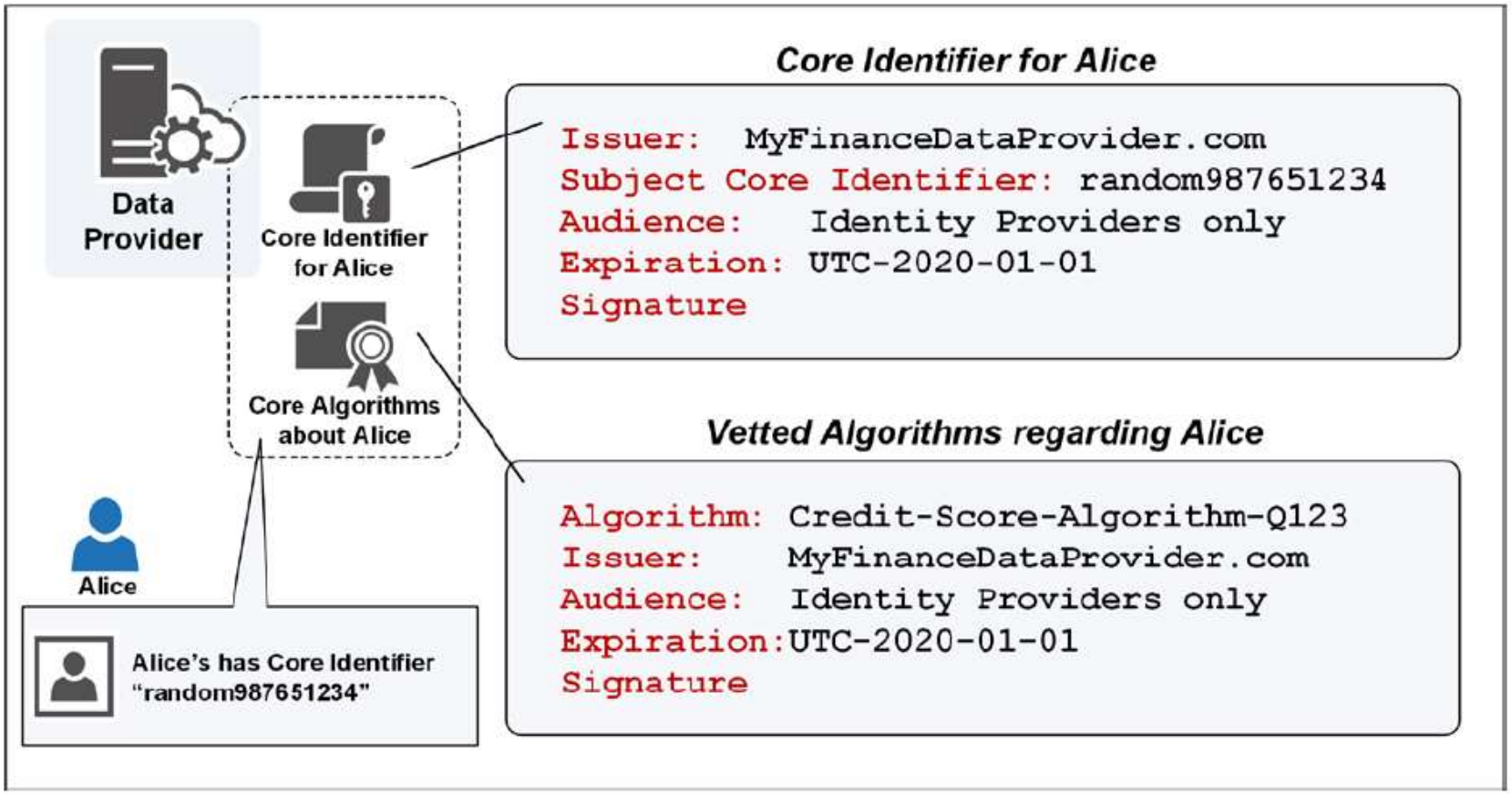


Figure 4: The Data Provider in a Circle of Trust as the Issuer of Core Identifiers

«Separation of Trust»: Data Provider & Identity Provider are distinct

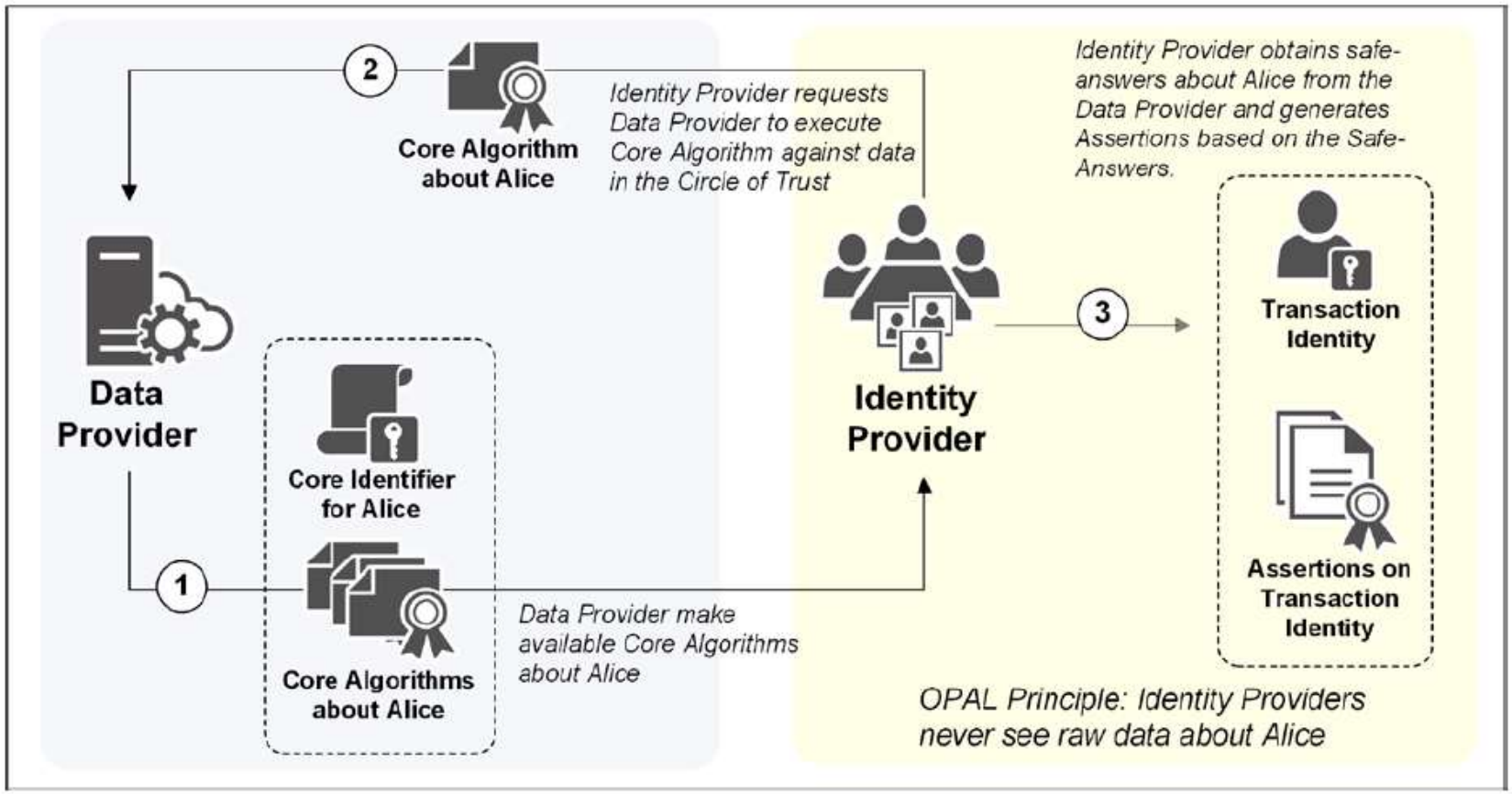


Figure 5: The interaction of Data Providers and Identity Providers via core algorithms regarding a user

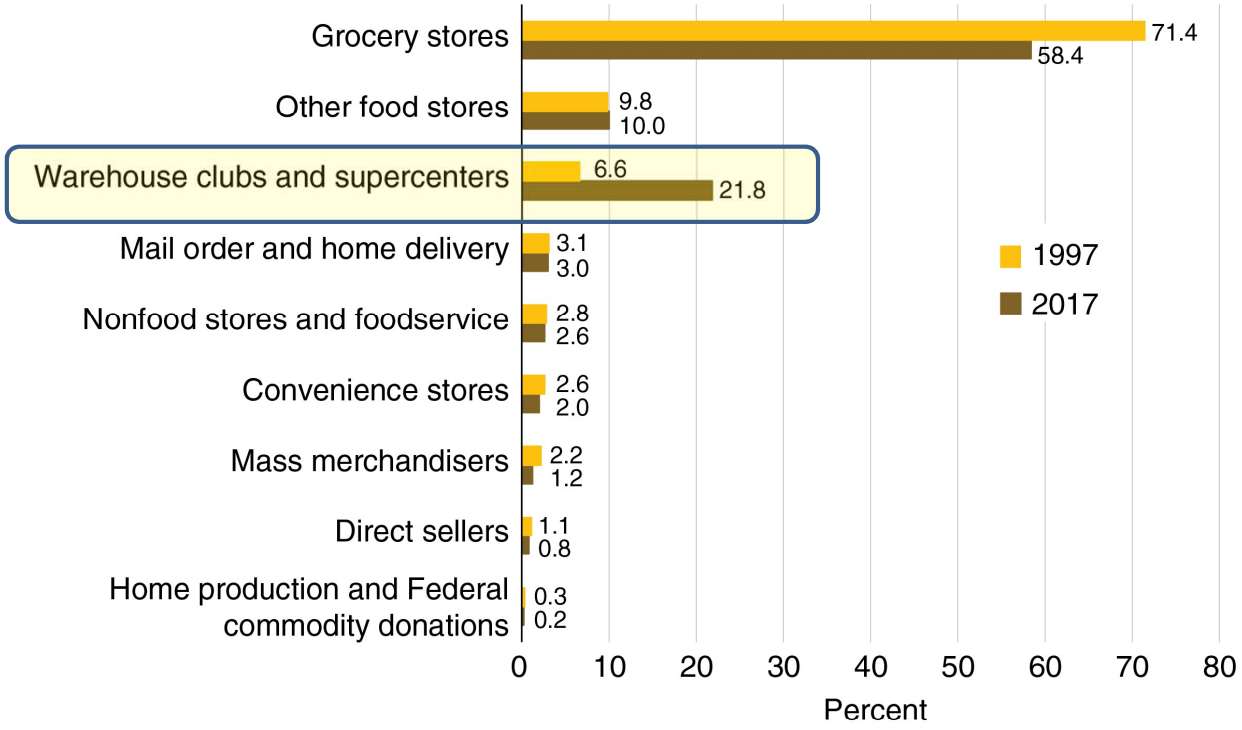
Don’t: “Associate & Protect (ex post)”

Do: “Aggregate & Organize (ex ante)”

...CONSUMERS

USA: «club shopping» volumes have tripled

Grocery stores losing share of food-at-home market to warehouse clubs and supercenters



Notes: Other food stores includes meat markets, fruit and vegetable markets, baked goods stores, and fish and seafood markets. Nonfood stores and foodservice includes gas stations, drug and health stores, department stores, variety and catalog stores, and miscellaneous stores.
Source: USDA, Economic Research Service, Food Expenditure Series.

”Social-ised” shopping: when consumers get organized not only ex post, but also ex ante

450ml users on Pinduoduo: connecting consumer preferences & manufacturers

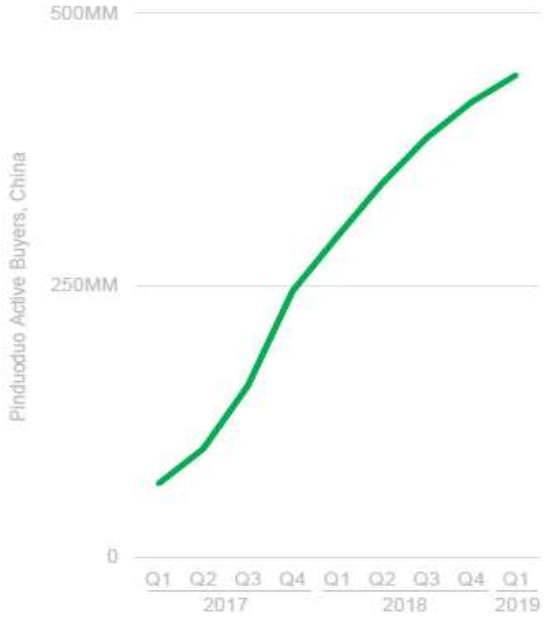
Group Discovery / Buying

*We call it **consumer-to-manufacturer, where we understand the users' needs first & enable upstream providers, be it farmers, manufacturers, etc. to produce appropriate products for our users**. This is different from how the current system works, where upstream producers design, manufacture & sell without necessarily being in tune with the changing needs of their targeted users.*

As we add more users to the network & also gain more data points through their increasing interaction with our platform, we can further refine our engine to deliver an even better user experience that keeps up with our users' evolving preferences.

Pinduoduo – Q4:18 Earnings Call, 3/19

Active Buyers, China



Pinduoduo

Refer Friends to Reduce Price

Source: Pinduoduo SEC filings (2018), Q4:18 Earnings Call (3/19) & Morgan Stanley.
Note: An active buyer is a buyer who has completed at least one transaction in the past 12 months.

“Reverse branding”: data-driven customer relationship triggers upstream vertical integration

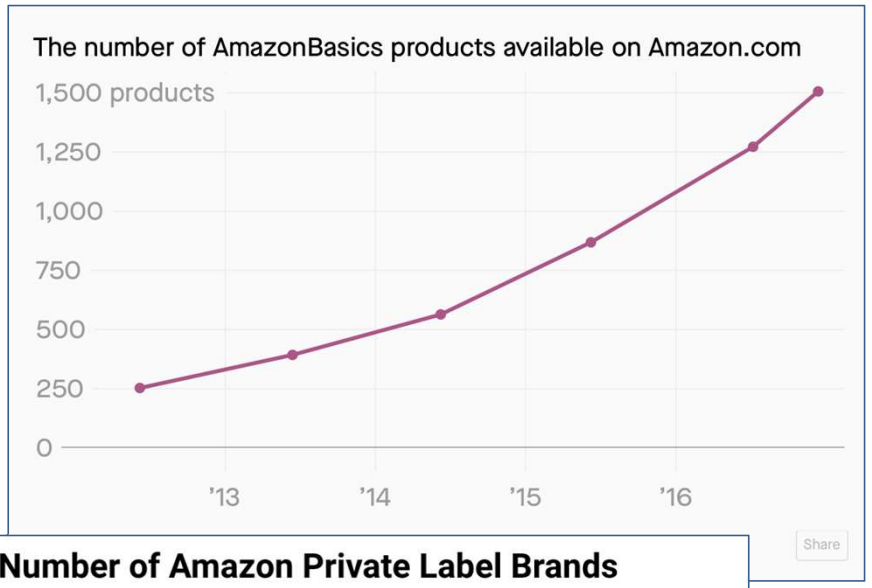
Omnichannel, touchpoint, proximity: when digital players control (almost) all relational interfaces, the most likely effects are:

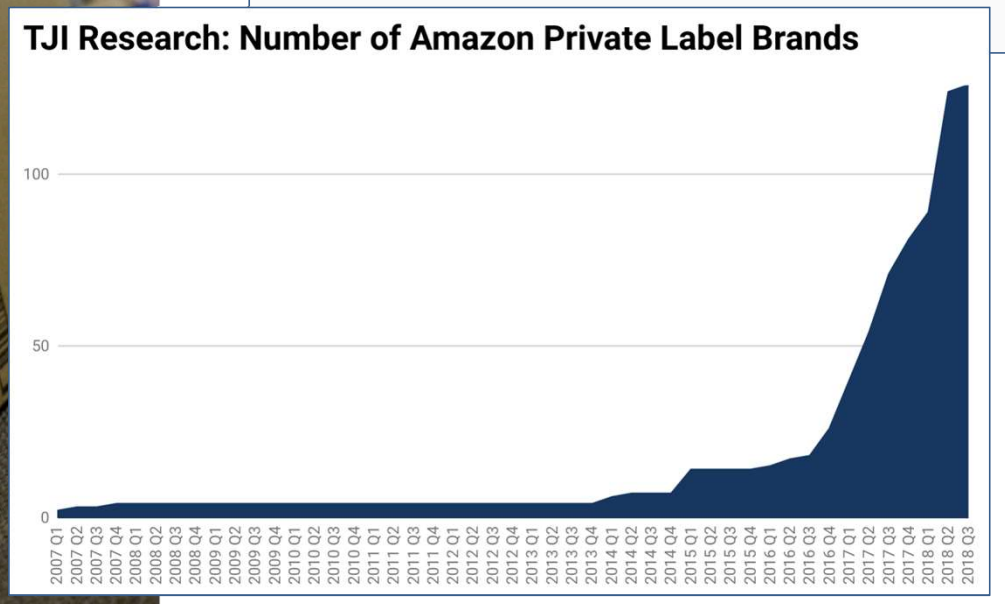
- **Vertical integration**, moving from retail to production
- **Product bundling,** with strategic cross-subsidy throughout different categories

BASIC BATCH

AmazonBasics is moving well beyond the basics

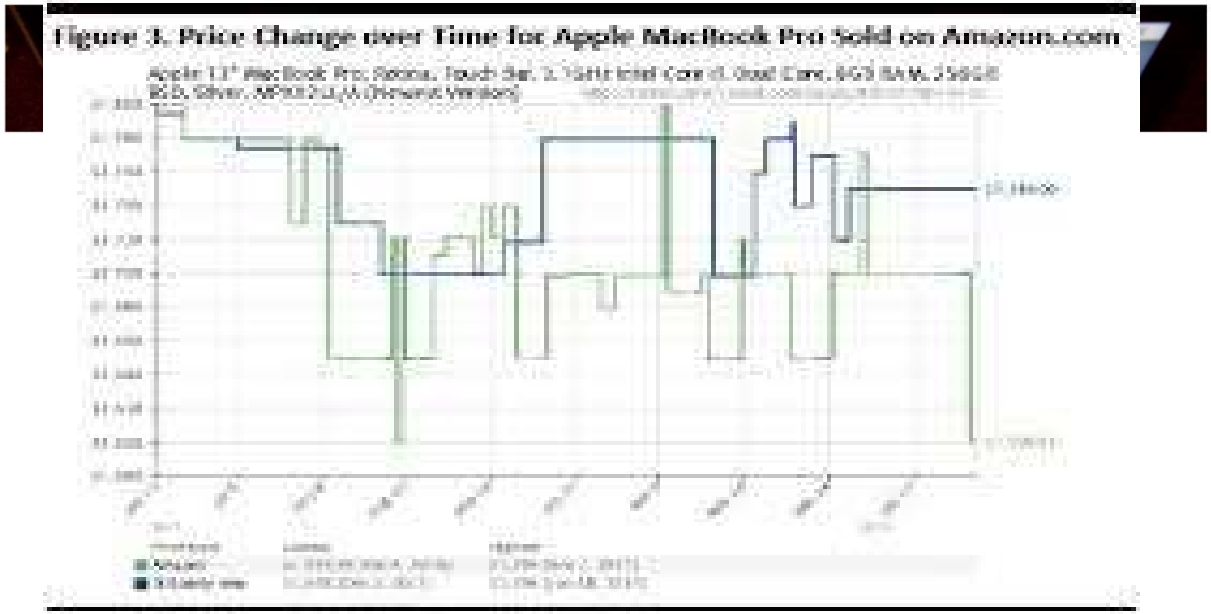
By Mike Murphy · December 14, 2017





Amazon changes prices on its products about every 10 minutes — here's how and why they do it

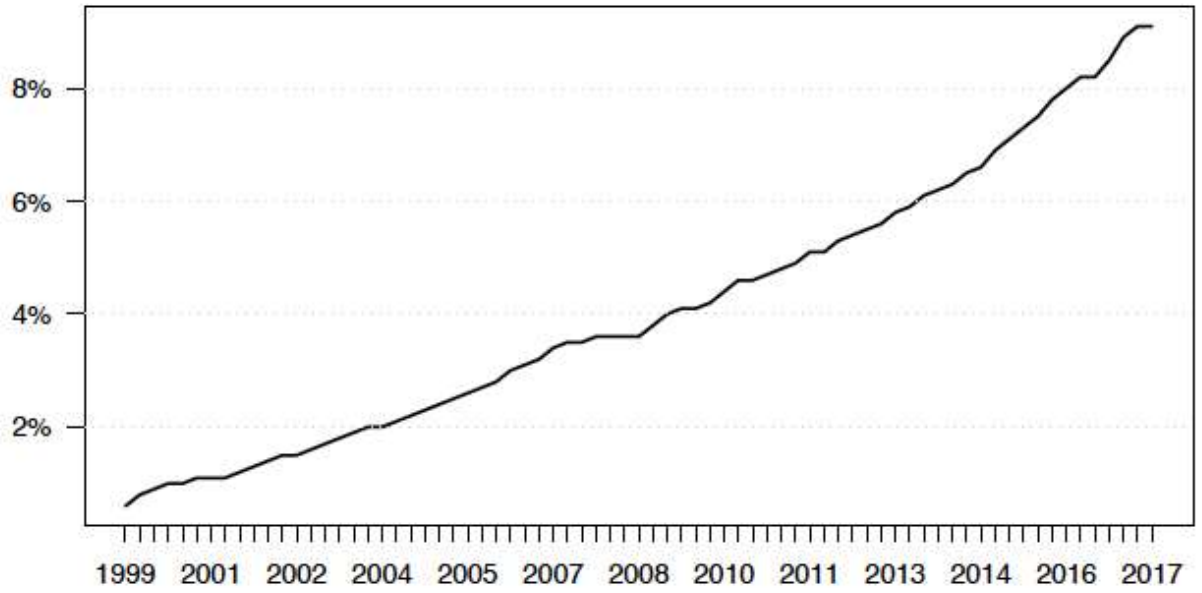
Neel Mehta, Parth Detroja, and Aditya Agashe, Contributors Aug. 10, 2018, 11:13 AM



The green line tracks price changes of the item sold by Amazon; the blue line tracks price changes of the item sold by third-party sellers on Amazon Marketplace.
Source: Camelcamelcamel/Amazon

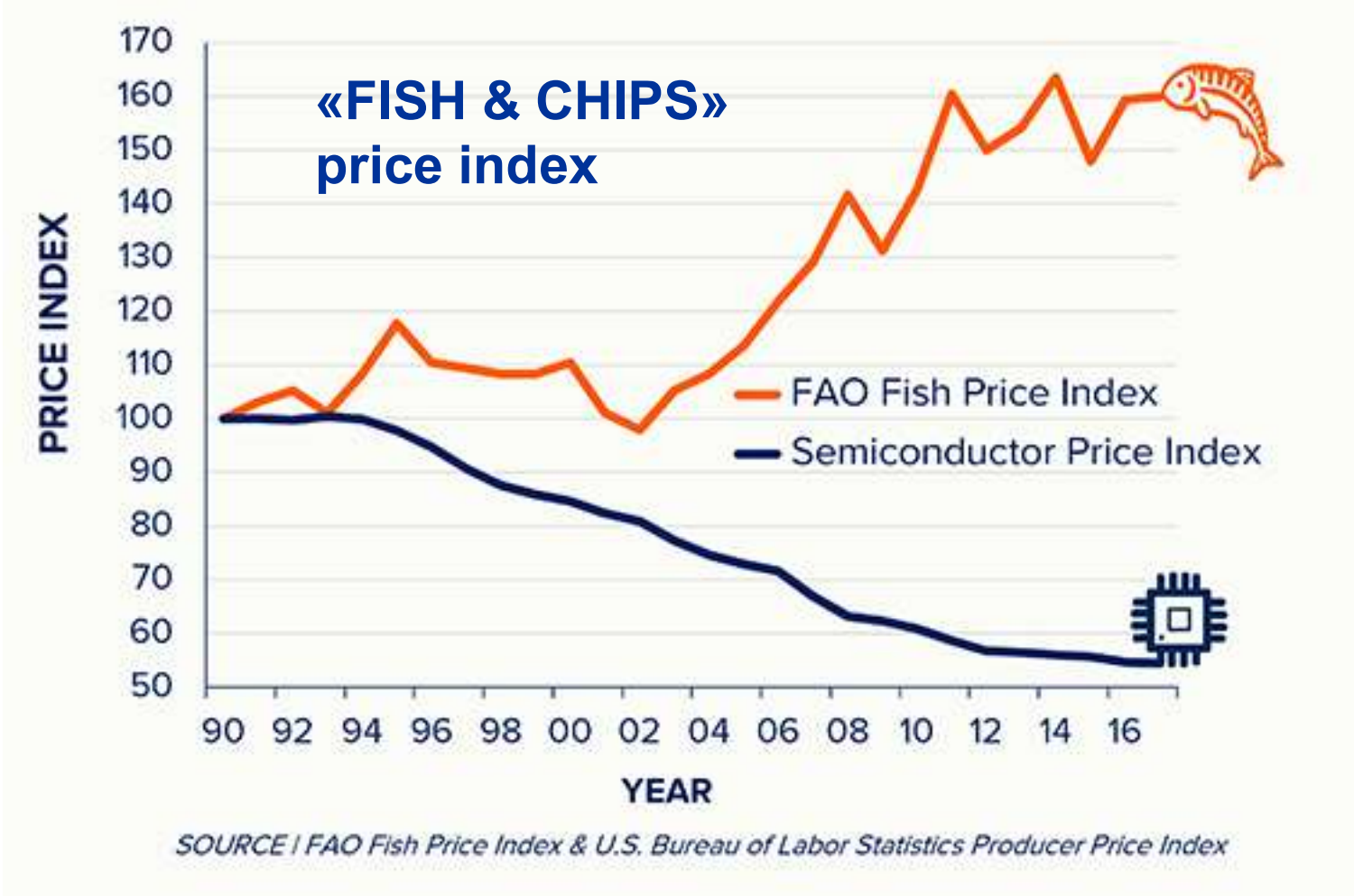
The most relevant impact of digital is not on product volumes. It's on consumer prices.

Figure 1: E-commerce Share of Retail Sales



Source: U.S. Census Bureau (2018).

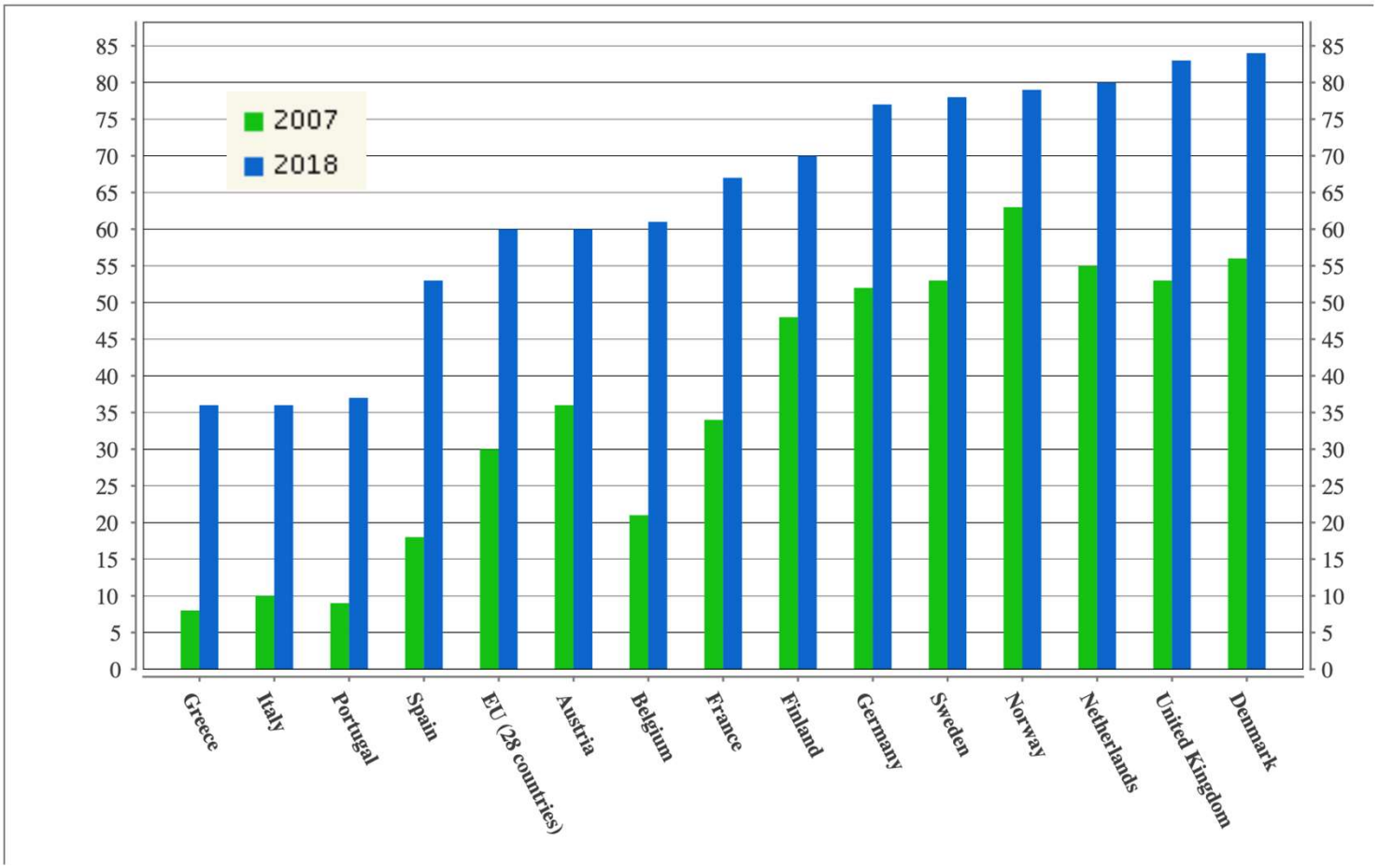
The worst enemy of SuperMario



Lost in Deflation (then): 10% more people online, 1% less inflation

«A study by Yi and Choi (2005) finds that an annual increase by 1 percentage point in the share of people using the internet decreases the annual inflation rate in the range of 0.04-0.1 percentage point. This outcome is broadly in line with more recent results published by Lorenzani and Varga (2014) who estimate the impact of online purchases of goods and services when examining the degree of price competition. In this context, they project the share of online purchases of goods and services in the retail sector observed in the year 2010 further up to 2015, and estimate that such a development could, overall, lower price increases in the retail sector in the EU27 as a whole by 0.1 percentage point each year between 2011 and 2015»
(Source: ECB Economic Bulletin Issue 2 / 2015)

Individuals using the internet for ordering goods or services
% of individuals aged 16 to 74
Buy or order for private use. Within the last 12 months before the survey. Manually typed ... more



Lost in Deflation (now): DPI is more than 3% per year lower than CPI

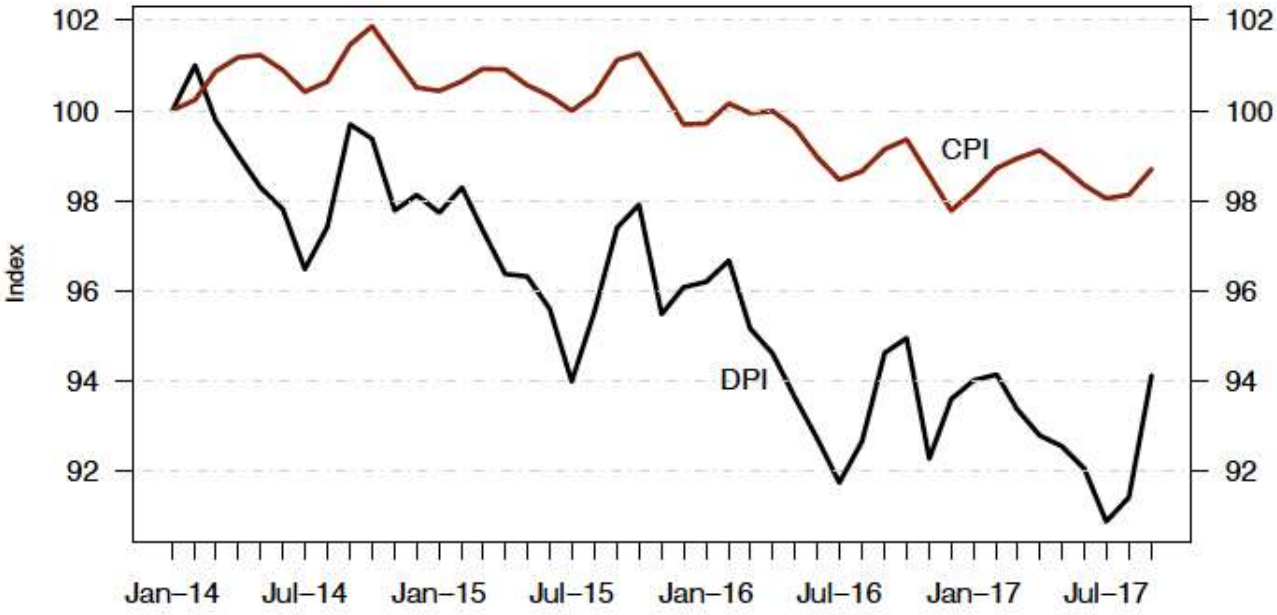
Table 4: Average Annual Inflation

	DPI	CPI
Headline	**–1.6**	**–0.3**
Recreation goods	–6.1	–3.0
Household goods	–4.8	–1.9
ICT	–6.6	–3.7
Food and beverages	–0.9	0.3
Apparel	–0.1	0.8
Other goods and services	0.8	1.7
Transportation accessories and parts	–1.2	–0.4
Medicines and medical supplies	1.3	–0.2

Notes: Entries are percentage points per year in annual average inflation for 2014–2017. Source: Authors' calculation using Adobe Analytics and BLS data.

Using a new dataset on e-commerce transactions in many categories of goods from Adobe Analytics, we calculated matched-model inflation and explored the importance of new products. Combining the two, the true Adobe DPI inflation rate — adjusted for new goods — was more than 3 percentage points per year lower than the CPI inflation rate for the same categories from 2014–2017.

Figure 2: Cumulative Inflation, DPI vs. CPI.

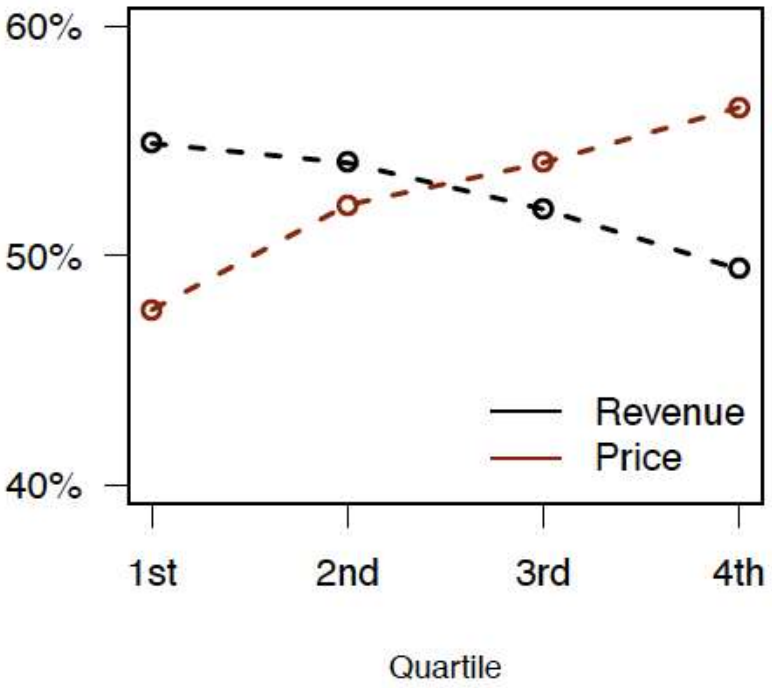


Notes: For the 65 ELIs covered by the Adobe Digital Price Index (DPI). Uses CPI relative importance weights for each ELI. Source: Authors' calculations using Adobe Analytics and BLS data.

Source: Austan D. Goolsbee and Peter J. Klenow, *Internet Rising, Prices Falling: Measuring Inflation in a World of E-Commerce»,* NBER, May 18, 2018

Online product turnover is worth 1.5-2.5% lower inflation per year

Figure 3: Entry rate by product revenue and price



Notes: Entry rates are for 2015–2016. Products are sorted into quartiles by revenue or price within ELIs. Source: Authors' calculation using Adobe data.

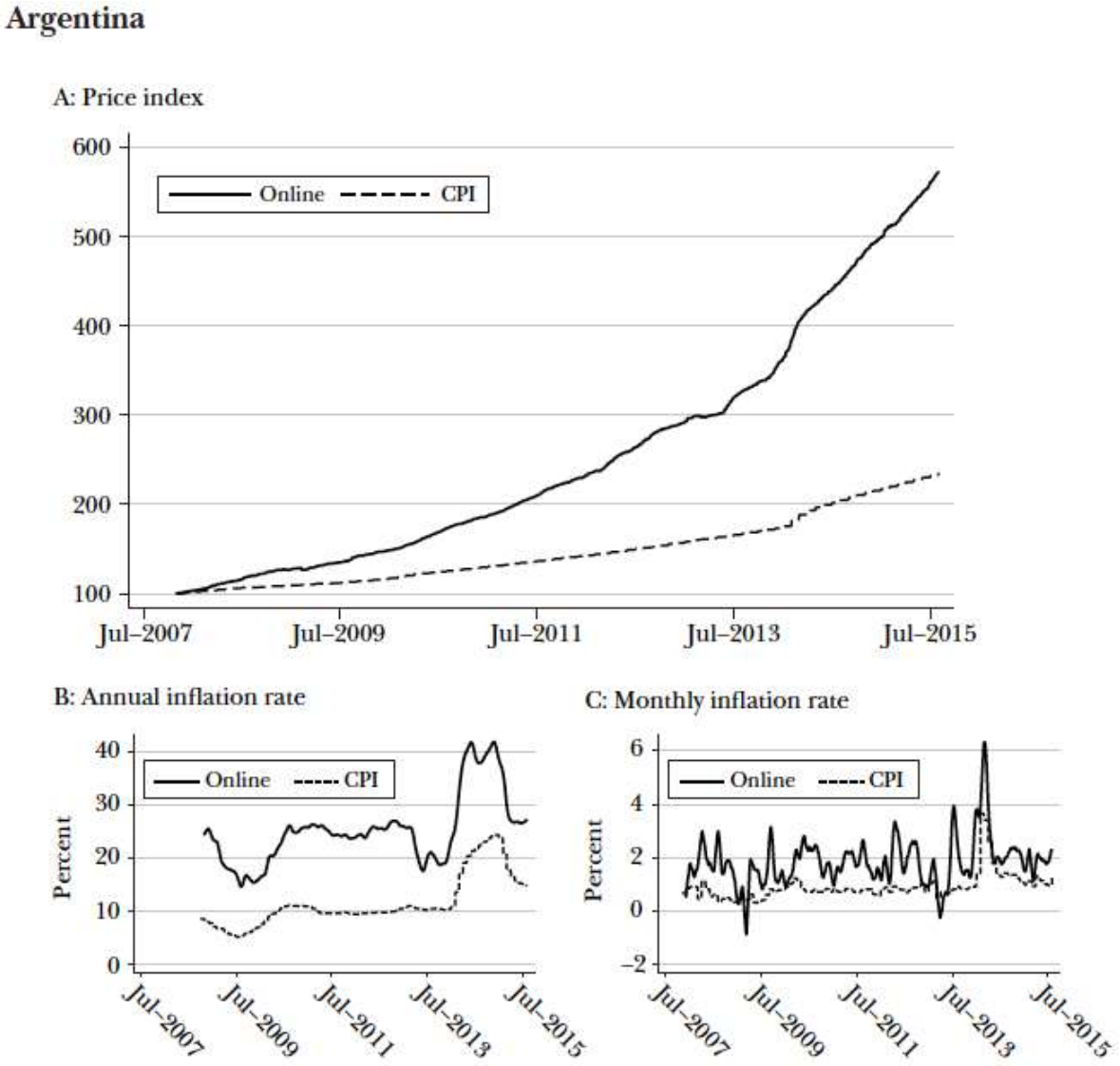
Table 7: New Goods Bias Based on the Adobe Data

	$\sigma = 4$	$\sigma = 6$
Headline	**3.5**	**2.1**
Headline ex. Apparel	**2.5**	**1.5**
Apparel	7.3	4.4
Other goods and services	5.9	3.9
Recreation goods	5.4	3.2
ICT	4.1	2.5
Household goods	0.9	0.5
Transportation accessories and parts	0.7	0.4
Food and beverages	0.4	0.2
Medicines and medical supplies	0.0	0.0

Notes: Entries are percentage points per year, averaged over 2014–2015 and 2015–2016. Source: Authors' calculation using Adobe data.

«Entering products do tend to have significantly bigger market shares than outgoing products in the Adobe data, even outside apparel. Table 7 presents estimates of new goods bias in the Adobe online data. Even excluding apparel, the arrival of new goods is equivalent to 1.5 to 2.5 percentage points lower inflation than what a matched-model would indicate. This is much higher than the 0.6% per year new product bias estimated by the Boskin Commission, though that was for the CPI as a whole. The Adobe data may cover items with larger-than-average new goods bias. Outside apparel, new goods bias looks»

Source: Austan D. Goolsbee and Peter J. Klenow, *Internet Rising, Prices Falling: Measuring Inflation in a World of E-Commerce»*, NBER, May 18, 2018



Don’t cry online, Argentina

«The fact that the two measures of inflation in diverge so dramatically will not surprise anyone who knows the recent story of statistics in Argentina. In February 2007, the government intervened in the National Institute of Statistics and Census (INDEC) and fired the people responsible for computing the consumer price index.»

Source: A. Cavallo and R. Rigobon, *The Billion Prices Project: Using Online Prices for Measurement and Research*, Journal of Economic Perspectives—Volume 30, Number 2—Spring 2016—Pages 151–178

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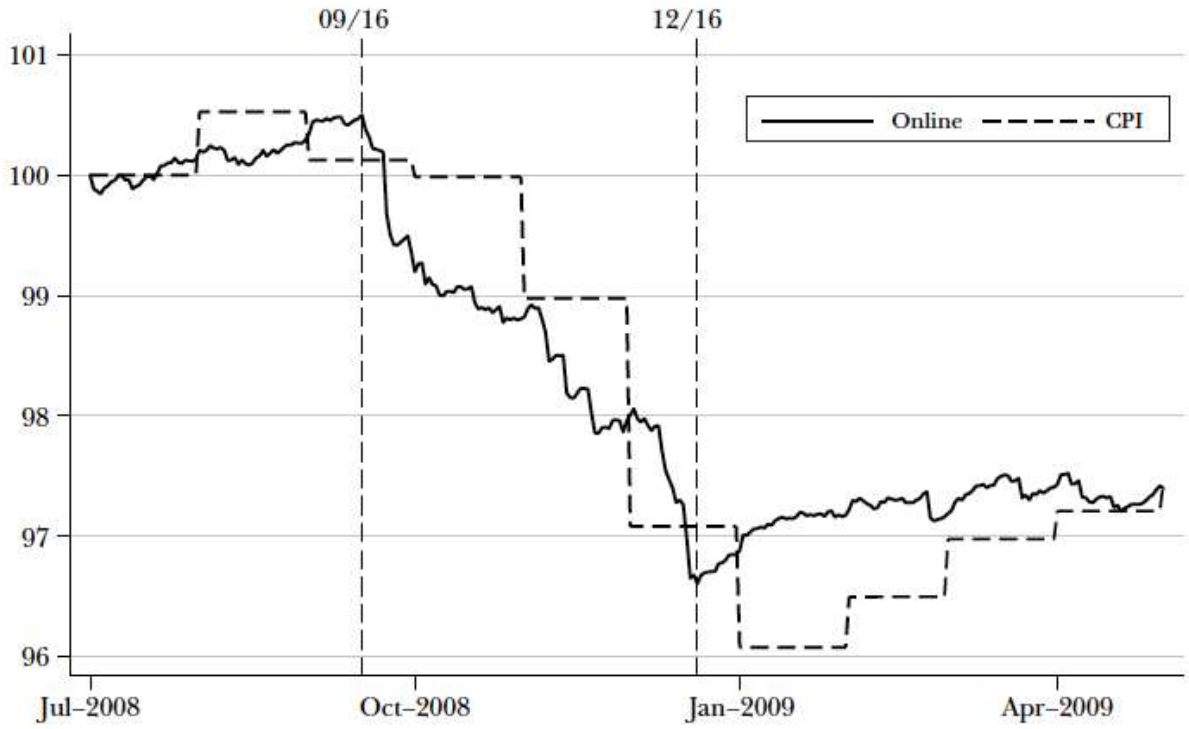
Lies, damned lies, statistics & CPI

US Consumer Price Index around the Bankruptcy of Lehman Brothers



Source: Authors using online price index computed by PriceStats and the Consumer Price Index from the US Bureau of Labor Statistics.
Note: The figure highlights the events around the bankruptcy of Lehman Brothers, the fourth-largest investment bank in the United States, during September 2008.

«It took more than two months after Lehman's disaster for the official Consumer Price Index numbers to reflect the full impact on price levels. Two months later, on December 16, 2008, the online price index stopped falling and started to increase once again. The Consumer Price Index did not show this change in the trend until the estimates for January were published on February 20, 2009»

Source: A. Cavallo and R. Rigobon, *The Billion Prices Project: Using Online Prices for Measurement and Research*, Journal of Economic Perspectives—Volume 30, Number 2—Spring 2016—Pages 151–178

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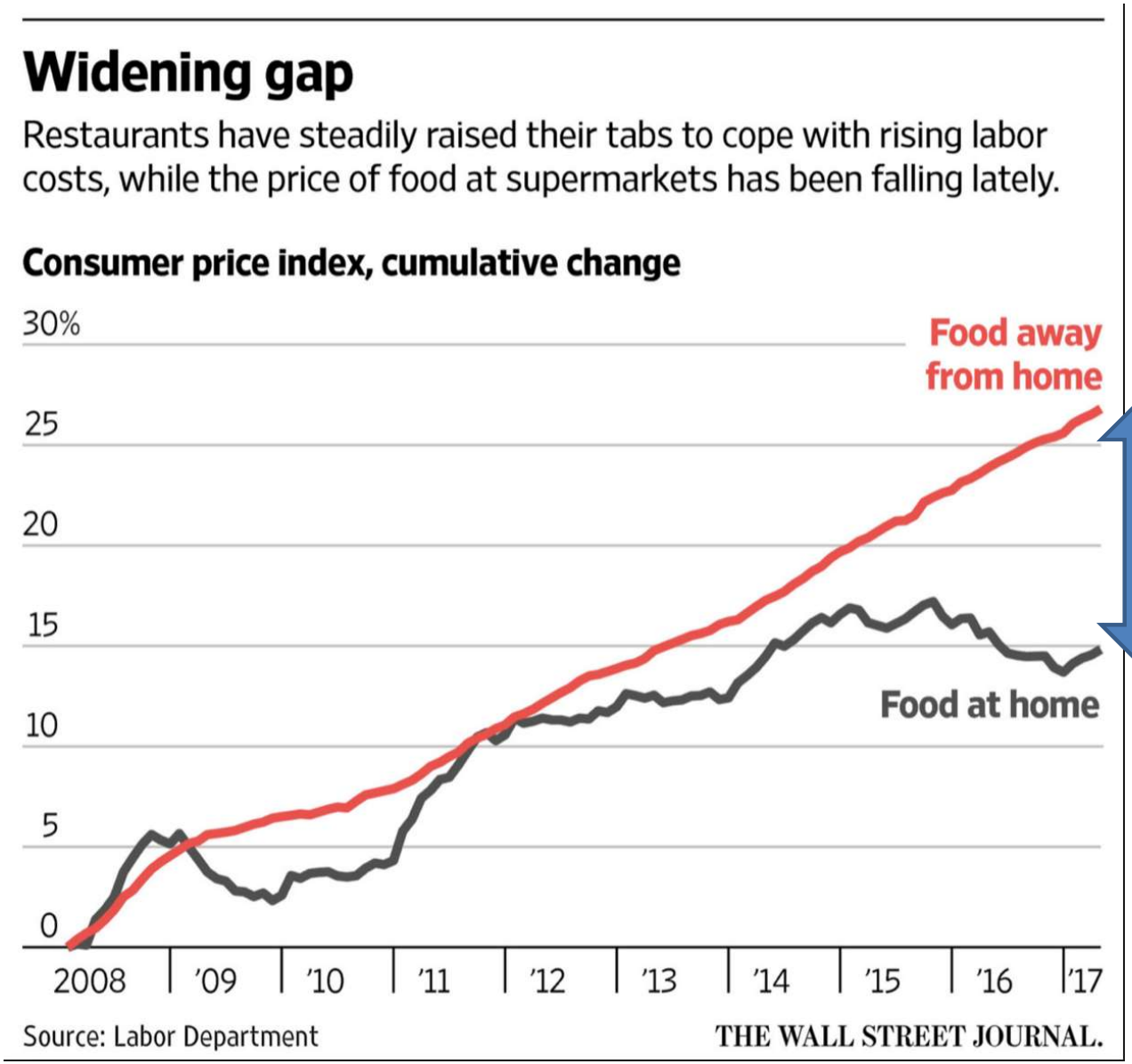


Table service

Moderate inflation of services

Quasi-deflation of products

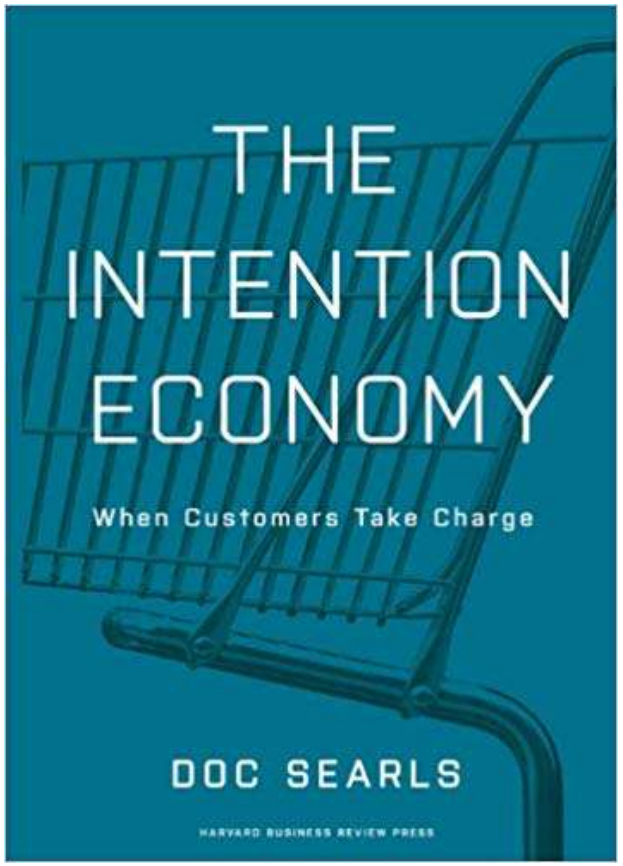
Technology & environmental trends are transforming Food & Beverage in a (public) utility

Economics of “intentions”

1. **Messages** become ***Money***

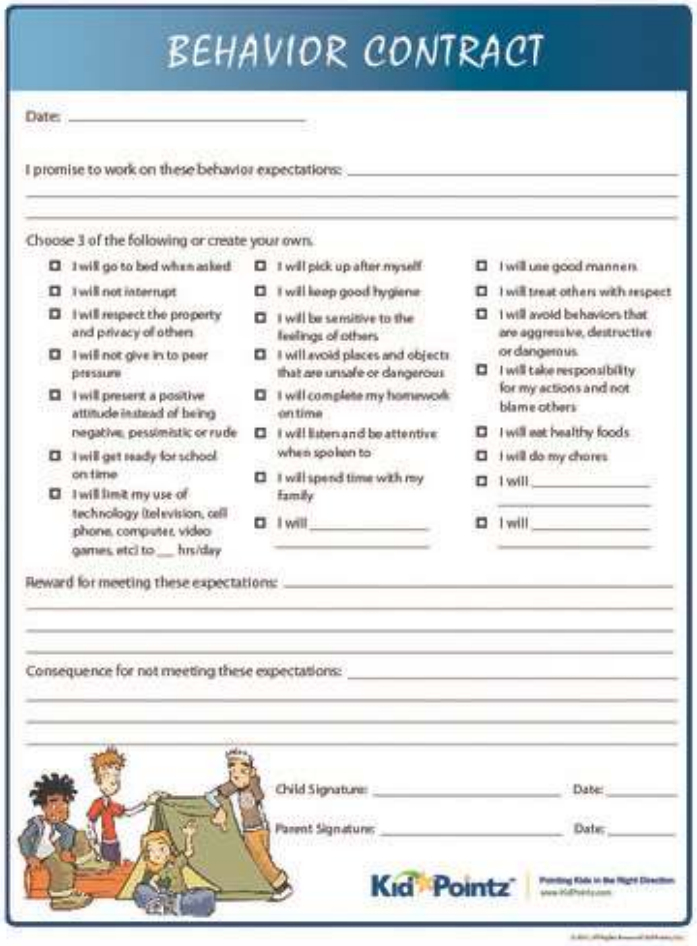
2. **Communications** become ***Contracts***

3. **Conversations** become ***Commerce***

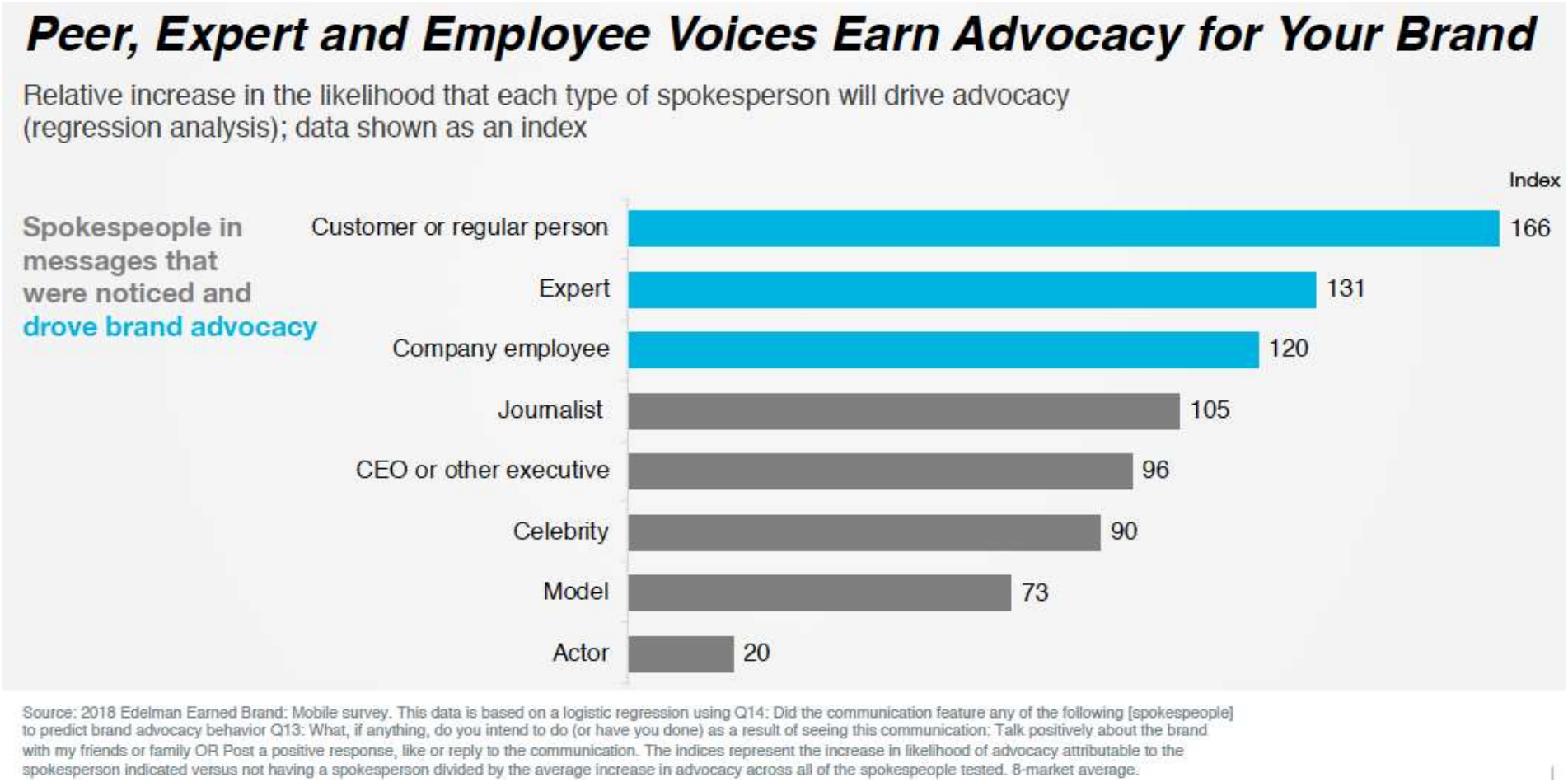


A marketplace for “Behaviour Contracts” of future consumption

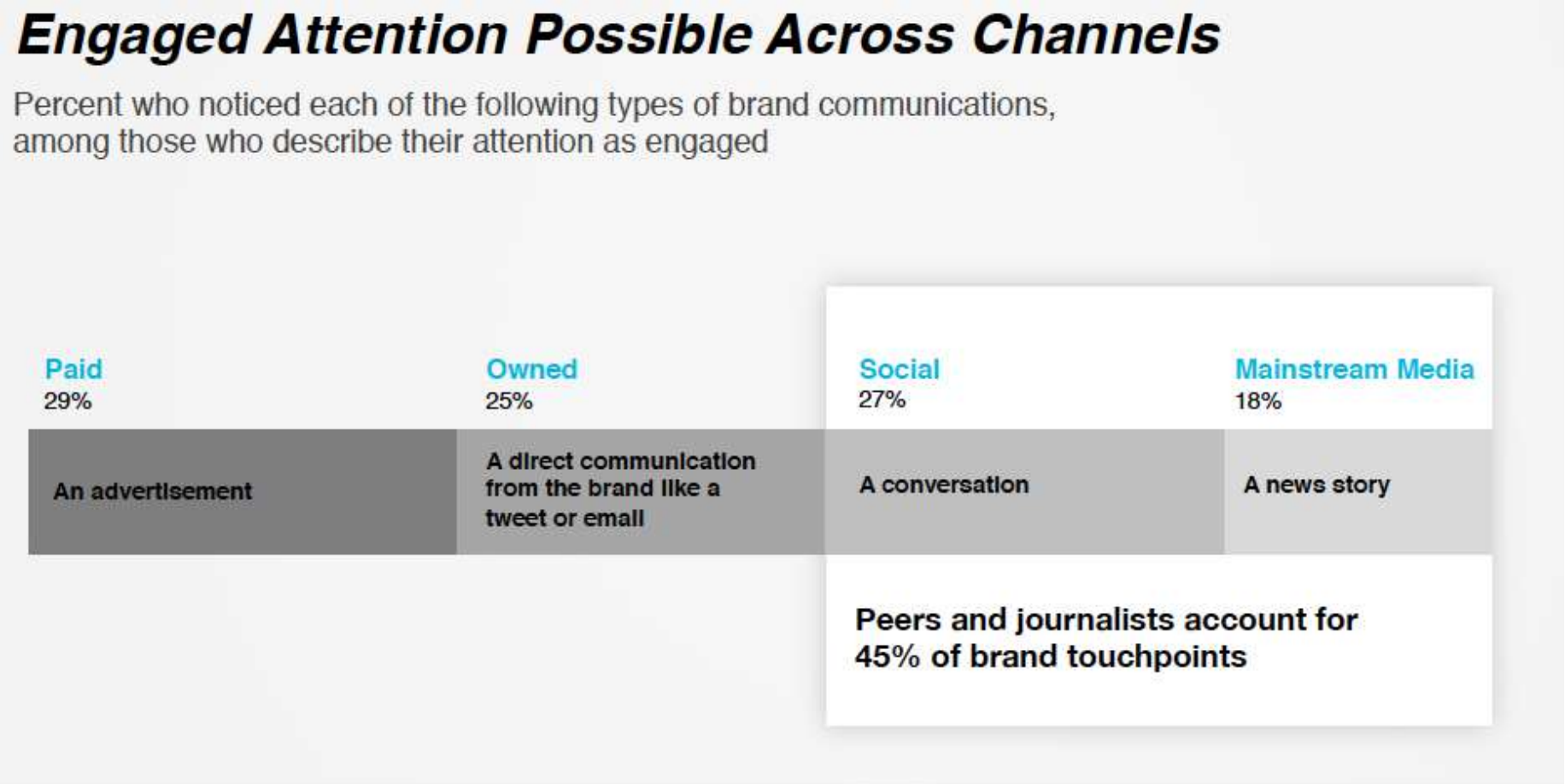
- *Consumerism goes from a Spot Market to an exchange of Futures and “Behavioural Derivatives”...*
- With the Great Stagnation**, all products are becoming “problematic”.**
- Purchasing is therefore a derivative contract based on future consumer’s intentions.
- *The exchange is simple: a commitment of mid term consumption for a greater efficiency, sustainability and transparency of the supply chain*



Hire your consumers, soon. Or corporate brands will.



News stories and social conversations become digital touchpoints



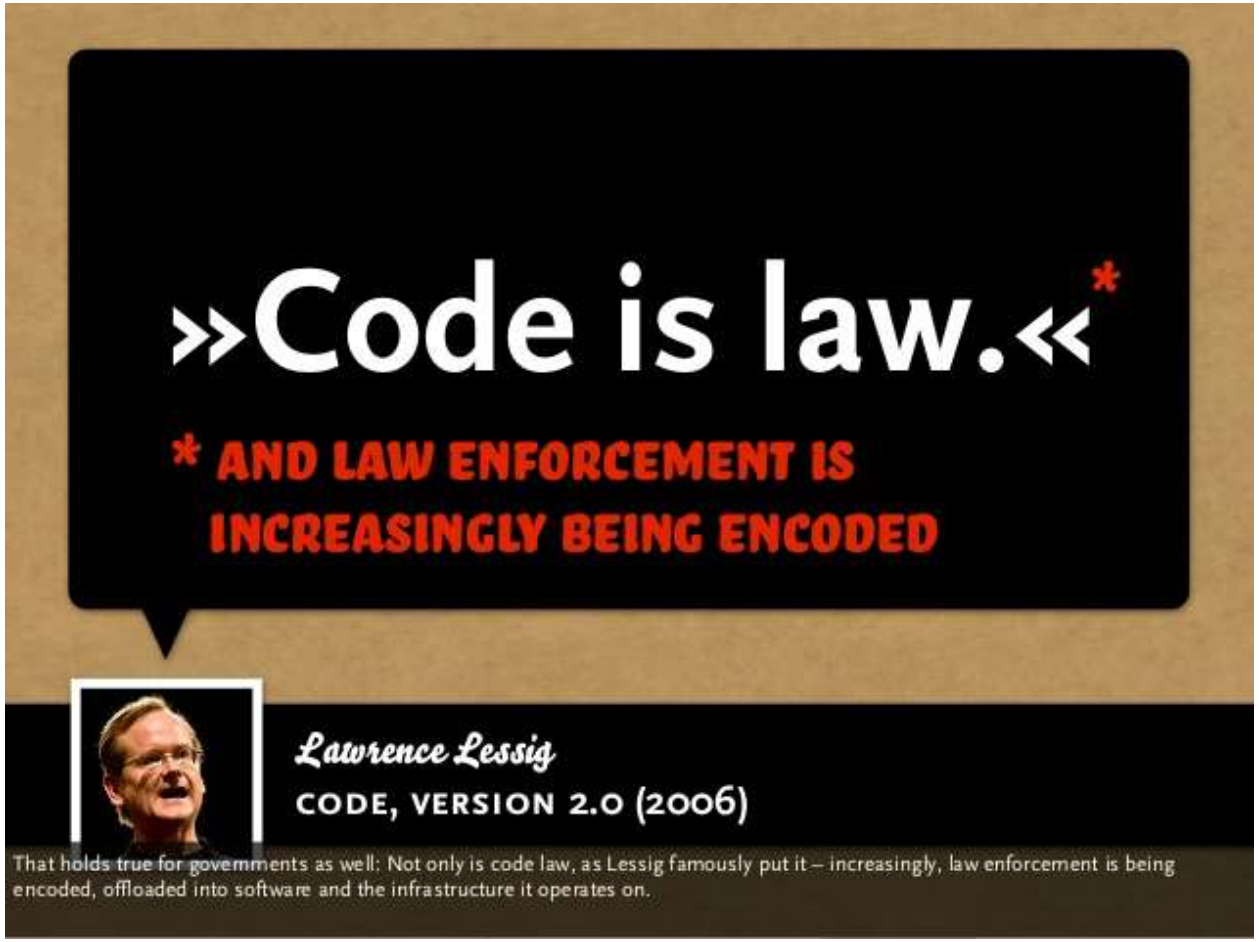
Source: 2018 Edelman Earned Brand: Mobile survey. Q1. What was the communication you just noticed? Q3. When you first encountered the communication, how would you describe the way it got your attention? 8-market average, among the original invite sample who describe their attention as engaged (Q3/1, Q3/3, or Q3/4).

Trust becomes Data: social & distributed

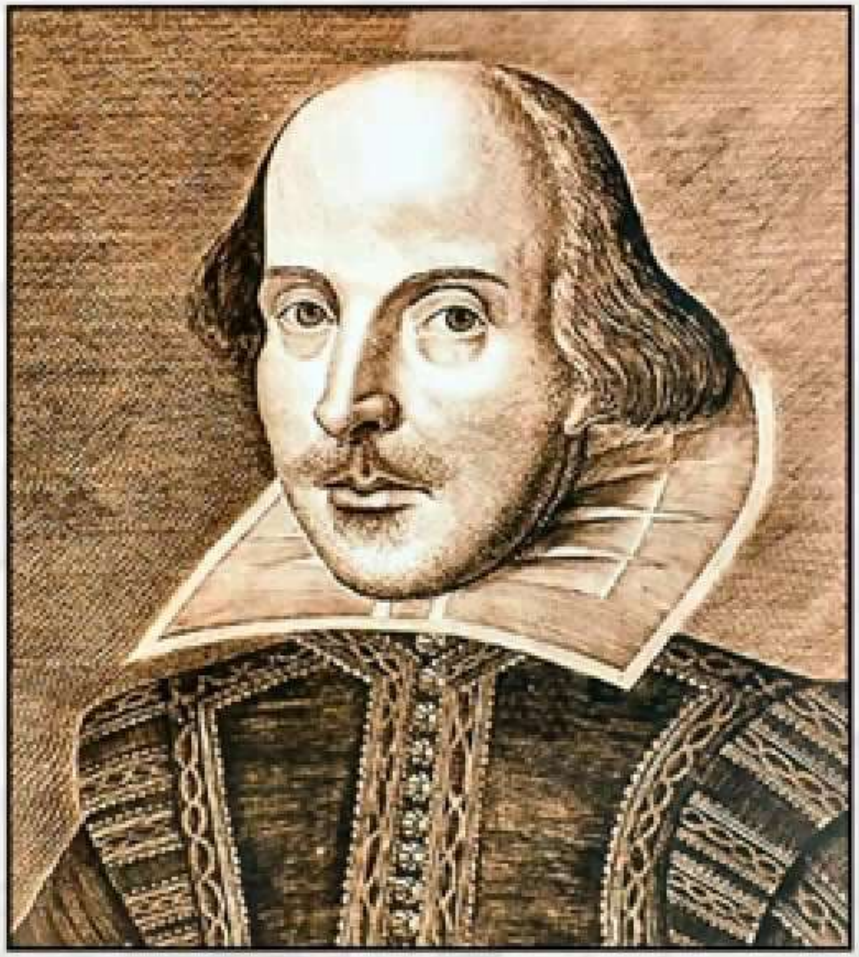
Do you remember the Michelin Guide?

Today it takes "Five Stars" even to organize a political party…

Code is Law: start writing software, not legal claims



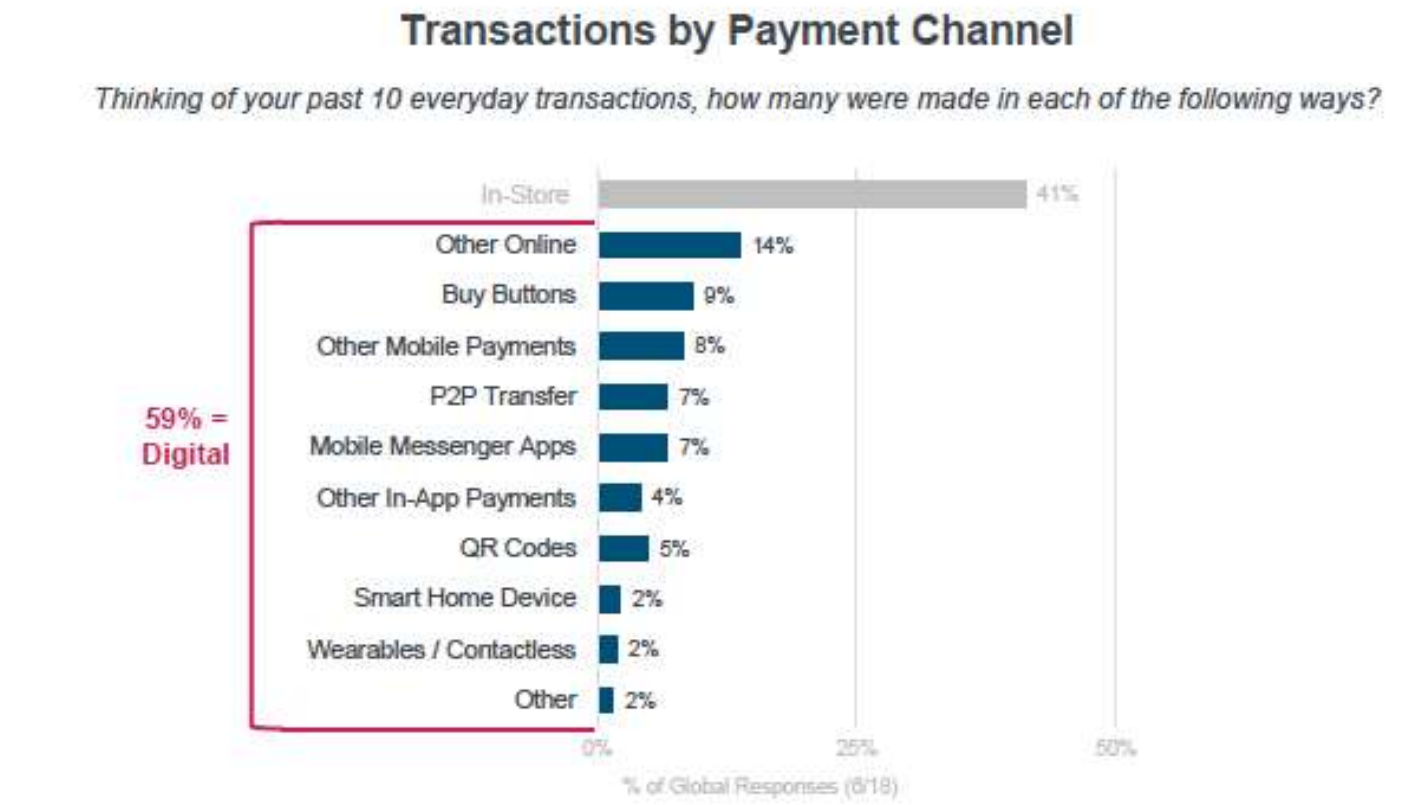
"The first thing we do, let's kill all the lawyers."
Henry VI, Pt 2



Technology creates new institutions

And challenges the old ones

If Customer is King, then Data is the New Money



BOND
Internet Trends

The real weight of Libra

Consumer organizations as clearing houses of transaction: taking part in validation processes «permission-based», but well structured and transparent

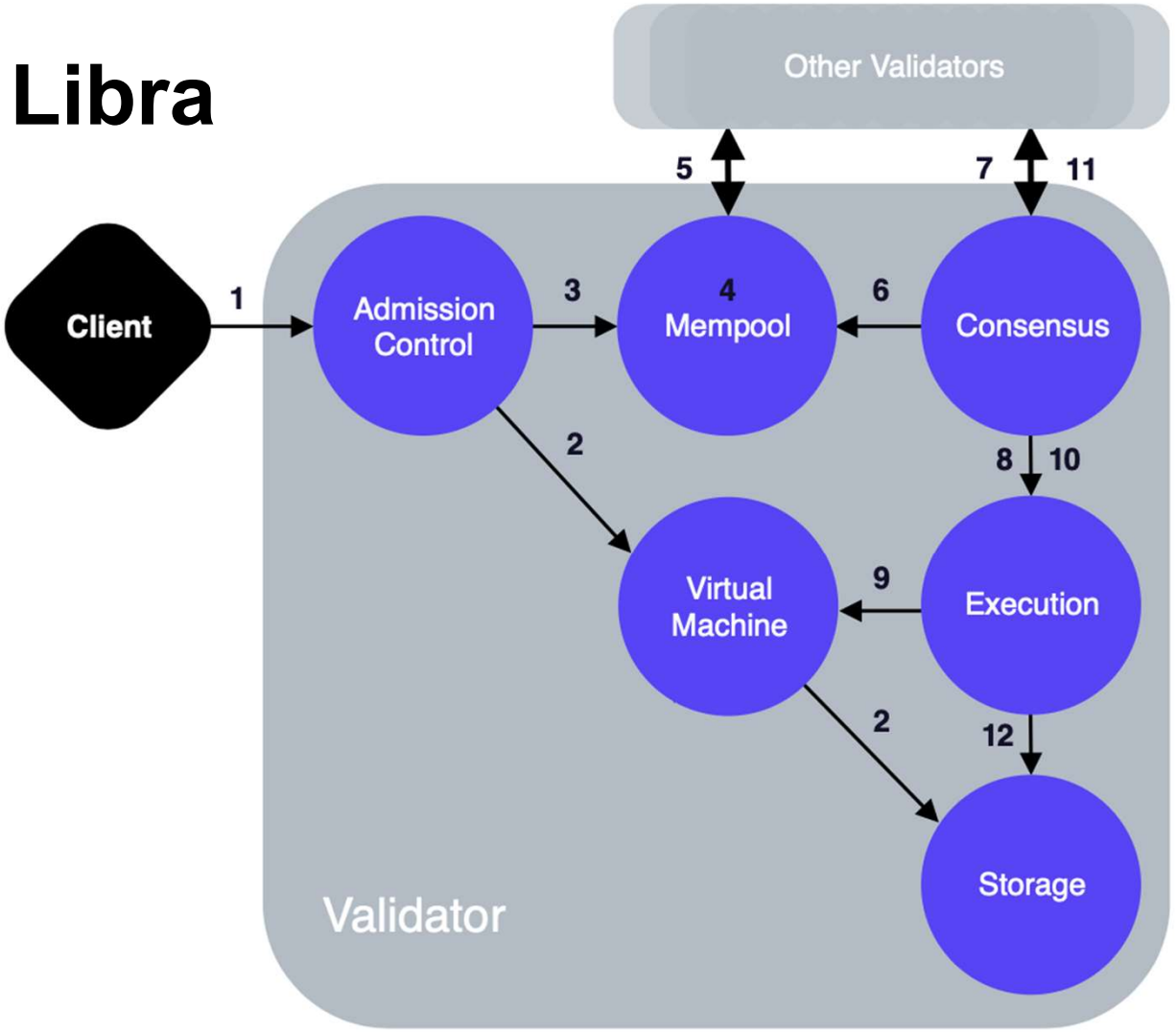


FIGURE 1.1 LIFECYCLE OF A TRANSACTION

Take-away: key messages

1. Digital technology is a powerful tool to organize demand and support **purchasing power** of consumers, including **innovative models of payment**

2. The new name to consumer protection is **consumer aggregation**: critical mass (of **information & intention**) can be achieved only via digital ecosystem

3. The future of consumers' law is coding: shift your focus **from data to algorithms**, from legal litigations to **platform development** with accountable corporations

A profile carved in digital stone

«The veil of Mary gives the appearance of being translucent, but in fact is carved of Carrara marble»

«The Veiled Virgin»
(ca. 1850)
Giovanni Strazza (1818–1875)
Presentation Convent - Newfoundland

The unbearable lightness of Google's hands

«The story of Proserpina was meant to illustrate the changing of the seasons: when Ceres welcomes her daughter back in the spring the earth blossoms, and when Proserpina must be returned to her husband, Pluto, it withers»

"Rape of Proserpina»
Gian Lorenzo Bernini
(ca. 1621-1622) ,
Galleria Borghese - Rome
He was only 23 years old!

Innovation, like sculpture, is an art by “taking away”...

“Un’arte per via di levare”
Michelangelo Buonarroti

Michelangelo, St. Matthew, Galleria dell’Accademia, Florence (Italy)

SDA Bocconi

Thanks!

Arrivederci...

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