

The Big Data Dilemma

“The world’s most valuable resource is no longer oil, but data.”

-The Economist, May 2017

“The future is data. We are looking to invest in companies that are generating valuable data around usage patterns, customer behavior, company information.”

-FRANK MEEHAN, entrepreneur and venture capitalist

INTRODUCTION

The idea of a “connected world” has taken many forms over several millennia. In the 4th century BC, trade between regions of Asia and parts of Europe and Africa expanded considerably, connecting foods, cultures, fabrics, metals and fragrances across three formerly detached continents. When Spain and Portugal became interested in finding a direct sea route to Asia in the 15th century, the known world expanded, and the Eastern and Western hemispheres were suddenly linked.

In the early 1800s, the electric telegraph was invented and made use of electricity - which was still somewhat of a novelty at the time - to transmit messages between parties over long distances. The telegraph system peaked in purpose by the early 1900s, at which time the wired telephone gained widespread popularity. In 1973, Motorola became the first company to invent the mobile phone, which ushered in a new era of telecommunications. Roughly two decades after that, the World Wide Web was birthed by computer scientist Tim Berners-Lee, popularizing the internet among the public and serving as a crucial step to connecting the modern world. Today, there are billions upon billions of “connected things” surrounding us, linking incredible volumes of data through the cloud.

What’s most breathtaking about this disjointed - and incomplete - timeline is the velocity at which the “connected world” has not only become connected, but hyper-connected. Barriers that used to create friction across borders such as telephone numbers, payment intermediaries, and access to information have suddenly been usurped by Voice over Internet Protocol - or VoIP - applications (think iMessage and WhatsApp), digital currencies (think Bitcoin and Ethereum), and troves of websites containing more information than a small country could consume in a lifetime (admittedly conjecture, but 1,200 petabytes is much, much more data than it sounds like).

And while this hyper-connectedness has unquestionably liberated many of the macro constraints that existed prior to the proliferation of the internet, the side-effects have been somewhat unnerving on a micro level. For example, research suggests that even with constant access to social media, smartphones, tablets, streaming videos, music, and the Internet, levels of happiness, satisfaction, and feelings of “connectedness” are on the decline. Painfully ironic, no?

Furthermore, targeted advertising, which is intended to deliver us with the most relevant content to our lives, has actually led to a growing sense of unease and paranoia. For example, in the recently released Netflix documentary *The Great Hack*, a professor poses a simple question to his students: “How many of you have received an advertisement that leads you to believe your phone is listening to you?” Not surprisingly, every hand in the room shot up. And, while the professor goes on to explain that targeted ads are more likely the result of advanced algorithms, machine learning, and artificial intelligence (not eavesdropping machines), the scene underscores the societal distrust that has swelled around technology as a whole.

THE BIG DATA DILEMMA

Take a minute to perform a simple cost-benefit analysis of whether technology has enhanced or detracted from your life. My quick examination looks something like this:

Cost	Benefit
Personal data being collected	Instant access to information
Robocalls on the rise	Always connected to friends and family
Information less secure	Ability to work from anywhere
Creates dependencies	Entertainment always available
Can be addictive	Increasingly connected to other parts of the world
Disconnected interpersonal relationships	Saves time on common tasks

While your individual analysis may differ, the underlying commonality is likely that technology has both improved and diminished your life in various ways. As such, to paint technology as fully good or fully bad is not constructive. The dilemma that persists in the modern zeitgeist is not so much whether it is good or bad, but whether technology - and the companies behind it - can be “trusted.”

In other words, can companies like Facebook be trusted to protect both public and private information from advertisers? Or can companies like Amazon and Google be trusted not to leverage advanced technologies in phones, tablets, wearables and home speakers to eavesdrop on private conversations and curate content based on that information? Further, can they be trusted not to attempt to manipulate elections to achieve their preferred political outcome?

The World’s Most Valuable Resource (At Least For Now)

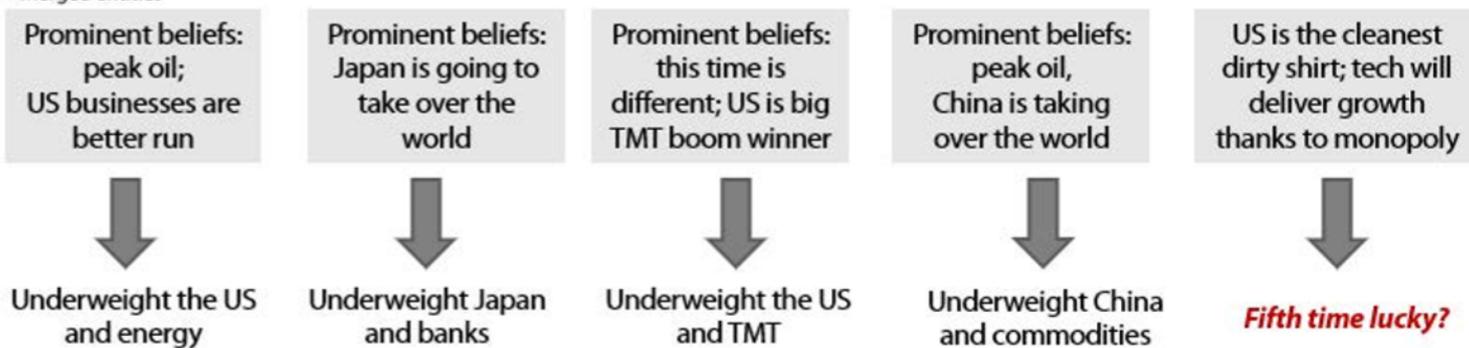
As the quote from *The Economist* at the beginning of this missive suggests, “the world’s most valuable resource is no longer oil, but data.” The borderline-Orwellian world that we find ourselves living in is one where nearly everything we do leaves a “digital fingerprint” in the form of data. Most of these digital fingerprints sit on private servers, and access to the information sitting on these servers has

become the world's biggest business.

However, as Louis-Vincent Gave pointed out in [An Investment Thesis for the 2020s](#), global trends tend to shift about once a decade. To this point, I have included a familiar image below with the ten most valuable stocks by market cap over the last five decades.

The top 10 stocks by market cap seldom make it to the end of the next decade									
1980		1990		2000		2010		2019 - June	
IBM	NTT	Microsoft	Exxon Mobil	Microsoft (US\$1.035trn)					
AT&T	Bank of Tokyo-Mitsubishi*	General Electric	PetroChina	Amazon (US\$936bn)					
Exxon	Industrial Bank of Japan	NTT DoCoMo	Apple Inc.	Apple (US\$913bn)					
Standard Oil	Sumitomo Mitsui Banking*	Cisco Systems	BHP Billiton	Google (US\$766bn)					
Schlumberger	Toyota Motor	Wal-Mart	Microsoft	Facebook (US\$538bn)					
Royal Dutch	Fuji Bank	Intel	ICBC	Alibaba (US\$421bn)					
Mobil	Dai-ichi Kangyo Bank	NTT	Petrobras	Tencent (US\$412bn)					
Atlantic Richfield	IBM	Exxon Mobil	China Construction Bank	Johnson & Johnson (US\$371bn)					
General Electric	UFJ Bank*	Lucent Technologies	Royal Dutch Shell	JP Morgan Chase (US\$360bn)					
Eastman Kodak	Exxon	Deutsche Telekom	Nestlé	Exxon Mobil (US\$320bn)					

* Merged entities



Whether any, all, or some of these companies grace this list again in 2030 is still out for the jury to decide - perhaps quite literally. Also literally, and hysterically, as I'm writing this article, the latest Bloomberg story that came across my feed is titled, "Facebook Paid Contractors to Transcribe Users' Audio Chats," highlighting that the distrust of tech is real - and for good reason.



Technology

Facebook Paid Contractors to Transcribe Users' Audio Chats

Tech Giants Risk Privacy Probes Over Alexa, Siri Reviewers

Amazon Gives Option to Disable Human Review on Alexa

Devoted *EVA* readers are [likely aware](#) that this distrust has already led to enhanced scrutiny in the public discourse. The implications of continued distrust are that the biggest companies in the world will face increased pressure to openly disclose information about their business. We believe this scrutiny and its potential outcomes should worry a market that has largely ridden on the coattails of big tech over the past decade. Additionally, those banking on big tech to stay insulated from global debt, trade, and monetary policy concerns that have recently pulled down markets will likely be disappointed, especially when factoring in the antitrust headwinds facing many of the biggest players in big tech. The odds are that the composition of the table of top 10 stocks shown above is going to change in a big way, irrespective of how big the Big Data dilemma turns out to be in the decade to come.



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