DATA AND AI APPLICATIONS

SILICON VALLEY PERSPECTIVE

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The Core of Every Business in Future is Data and AI
The two key components of a business are resources (assets) and information (data)

= resources +
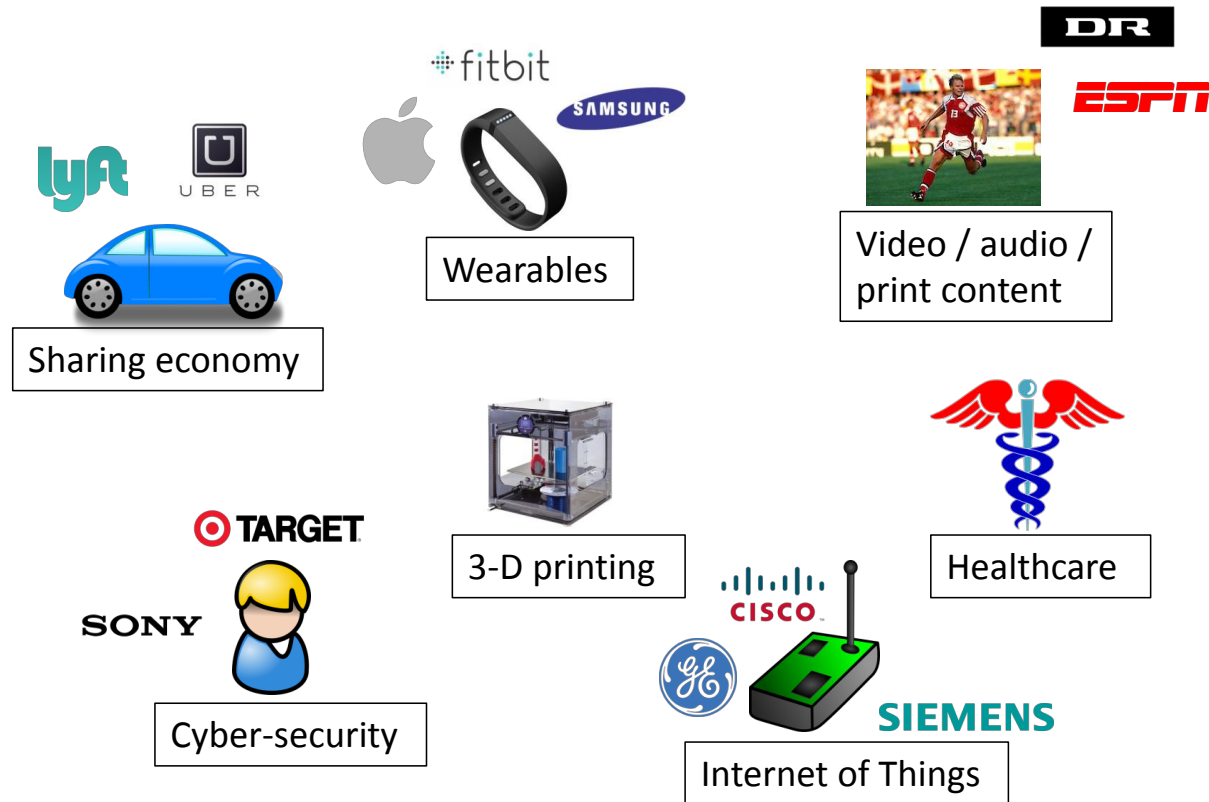
Information and automated decision

Less value over time

More value Over time

If you buy data, then everyone else has it also.
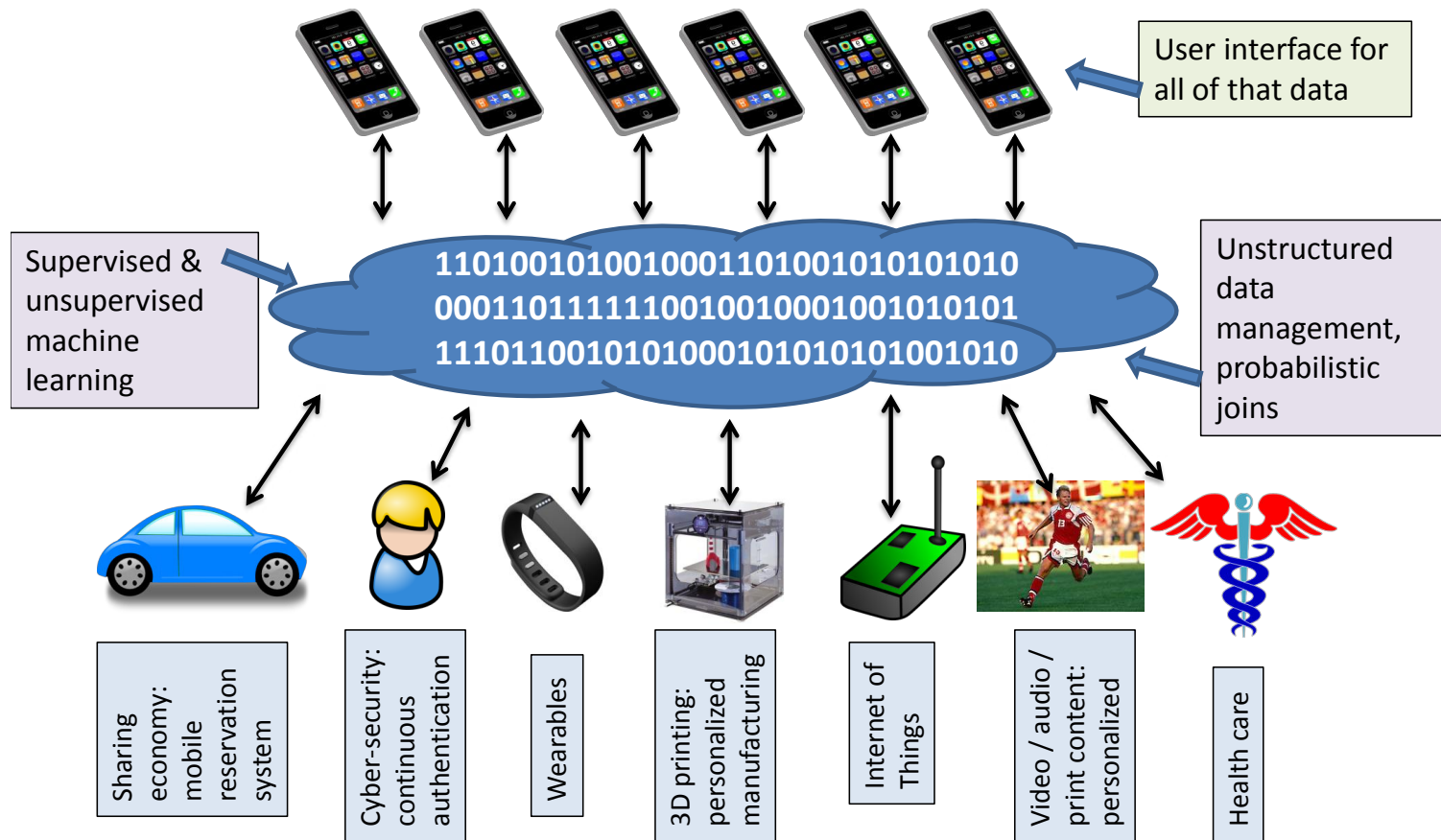
SILICON VALLEY
DATA VIEWPOINT

What One Thing Do the Following Have in Common?

Sharing economy

Wearables

Video / audio / print content

3-D printing

Healthcare

Cyber-security

Internet of Things

Ref: Shomit Ghose

Everything is Data-Driven

User interface for all of that data

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0001101111110010010001001010101
1110110010101000101010101001010

Supervised & unsupervised machine learning

Unstructured data management, probabilistic joins

Sharing economy: mobile reservation system

Cyber-security: continuous authentication

Wearables

3D printing: personalized manufacturing

Internet of Things

Video / audio / print content: personalized

Health care

Ref: Shomit Ghose

The Data-driven Business Model

	Google	facebook.	amazon	Square
Create a data stream				
Make money by understanding data stream	$ $	$ $	$ $	$ $

Reference: Shomit Ghose

The Source of Value: What Wins?

Mechanics	Company	Semantics
Social network	facebook	Data: individuals / businesses
Search Maps Email Self-driving cars	Google	Data: individuals / businesses
Professional networking	LinkedIn	Data: individuals / businesses
Work-out tracking	STRAVA	Data: individuals
Shopping lists	cozi	Data: individuals
Microblogging	twitter	???
???	Your start-up	Data: individuals / businesses

Reference: Shomit Ghose

A Case Example
to Understand

3 Factors to Understand:

1. Data vs Algorithm: Data is more valuable

2. Algorithm -> System: ML is only a small fraction of the system

3. Algorithm, Data, and Computing: Data is growing faster than computing

AMAZOOGLE DATA BUSINESS MODEL

Commodity vs. Anti-commodity

Companies selling commodity products: the _more_ you have, the _less_ it's worth; the only differentiator is price

Companies selling anti-commodities: the _more_ (data) you have, the _more_ it's worth

amazon   facebook.

Google

UBER   airbnb

Data companies

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Definition

AMAZOOGLE

- _Noun_
  - A business model characterized by the creation of large data streams by any means (mechanics) possible, and then monetizing the semantics of that data, specifically by using machine learning to predict future actions.
- _Verb_
  - To transform any existing business model that is based on the mechanics of a commodity product into one that is based on the semantics of the data produced by the commodity product.
- _Word origin_
  - Shomit Ghose in "The Red Queen and the Inevitability of the Amazoogle Business Model", Feb 28, 2018. https://scet.berkeley.edu/red-queen-inevitability-amazoogle-business-model/ From the combination of the words "Amazon" and "Google".

- Create New Data Streams
- Create Value or Predict Future Actions
- Typically the product or service you see is not the valuable portion
- Multi-sided market or Platform

FIRMS THAT DID NOT UNDERSTAND THE AMAZOOGLE BUSINESS MODEL
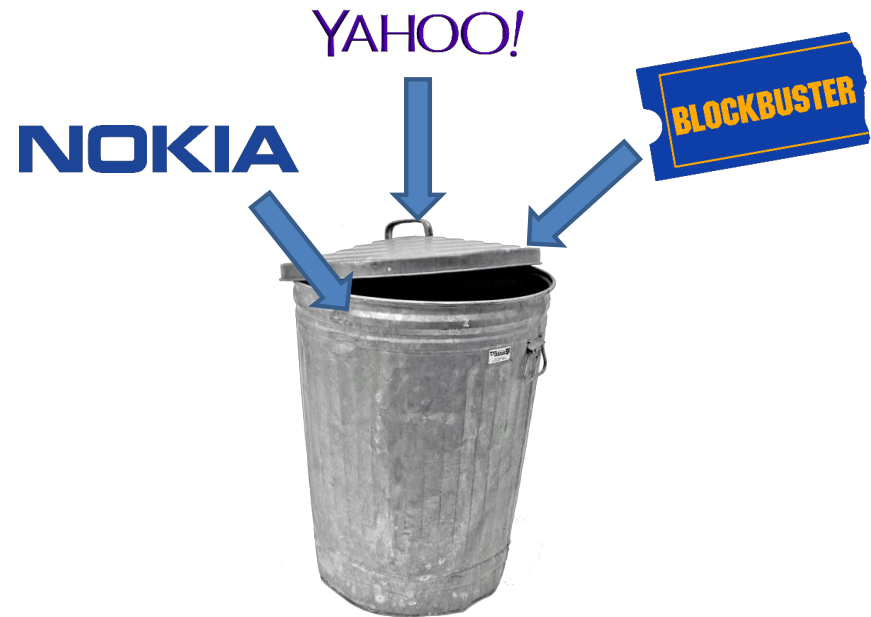
How Many Ways Can We Use AI/Data

- New Data-Driven Business Model: Amazoogle
  - Construct a valuable data stream
  - Predict something valuable

- Automation (Not Amazoogle)
  - Operations, Manufacturing, or
  - Customer Engagement

- Analyzing the past, learning from data - Not Amazoogle
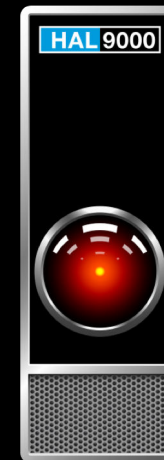
- Digital Transformation – This is broader than AI/ML

Progression:

**Data Science
(Detective)**

**Digital Xform/Automation
(Police / Call Center)**

Amazoogle

or

->

?

HOW DOES THIS WORK
FOR NON-TECH BUSINESSES

CASE EXAMPLE: A MAJOR GLOBAL MALL DEVELOPER AND OPERATOR

CHALLENGE:

AMAZON WILL DISRUPT SHOPPING

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CHALLENGE: AMAZON WILL DISRUPT SHOPPING

REQUIRES:

- BUSINESS ADAPTATION

- TECHNOLOGY TRANSFORMATION

- CULTURAL TRANSFORMATION

SOMETIMES FIRMS ARE NOT EVEN AWARE OR ALIGNED ABOUT THEIR CHALLENGE

How to Think About Strategy

Identify the Business and Technology Strategy Spectrum

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What is the Business-only strategy?

Business Options with technology support

New Technology Options to disrupt self, Or capture new markets

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Lifestyle Vs Shopping

Technology to improve Experiences in Malls

Dark Kitchen Last Mile Delivery

Where does Amazoogle Fit in?

Project: Create the Story on how you will use AI/Data

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Present your plan for 5-7 minutes.

Amazoogle – Do it Yourself - Project:

1. What would you like to be able to predict – that has value?

2. What data stream could be created to make that possible?

3. Based on what you know about Data and AI now:

   a) How: What would be the technical architecture
      or blueprint?
   b) What is the business model?
   c) What will be the organizational impediments?

Present your Amazoogle plan for 5-7 minutes.