

DIGITAL POWER: PLATFORMS & ECOSYSTEMS

AS THE DOMINANT ORGANIZATIONAL FORM & NEW SOCIAL INSTITUTIONS OF THE DIGITAL AGE

DIGHUM “DIGITAL HUMANISM” LECTURE – 2 DEC 2025

Professor Annabelle Gawer











Director, Centre of Digital Economy (CoDE)
Surrey Business School, University of Surrey,
UK













Platforms in the global economy

In 2025, SIX OUT OF THE TEN LARGEST COMPANIES ARE NOW BASED ON PLATFORM BUSINESS MODELS

2025 Source: www.companiesmarketcap.com

Rank	Name	Market Cap
1	 NVIDIA NVDA	\$4.329 T
2	 Microsoft MSFT	\$3.830 T
3	 Apple AAPL	\$3.512 T
4	 Alphabet (Google) GOOG	\$3.043 T
5	 Amazon AMZN	\$2.468 T
6	 Meta Platforms (Facebook) META	\$1.921 T
7	 Broadcom AVGO	\$1.719 T
8	 Saudi Aramco 2222.SR	\$1.497 T
9	 TSMC TSM	\$1.355 T
10	 Tesla TSLA	\$1.322 T

2008

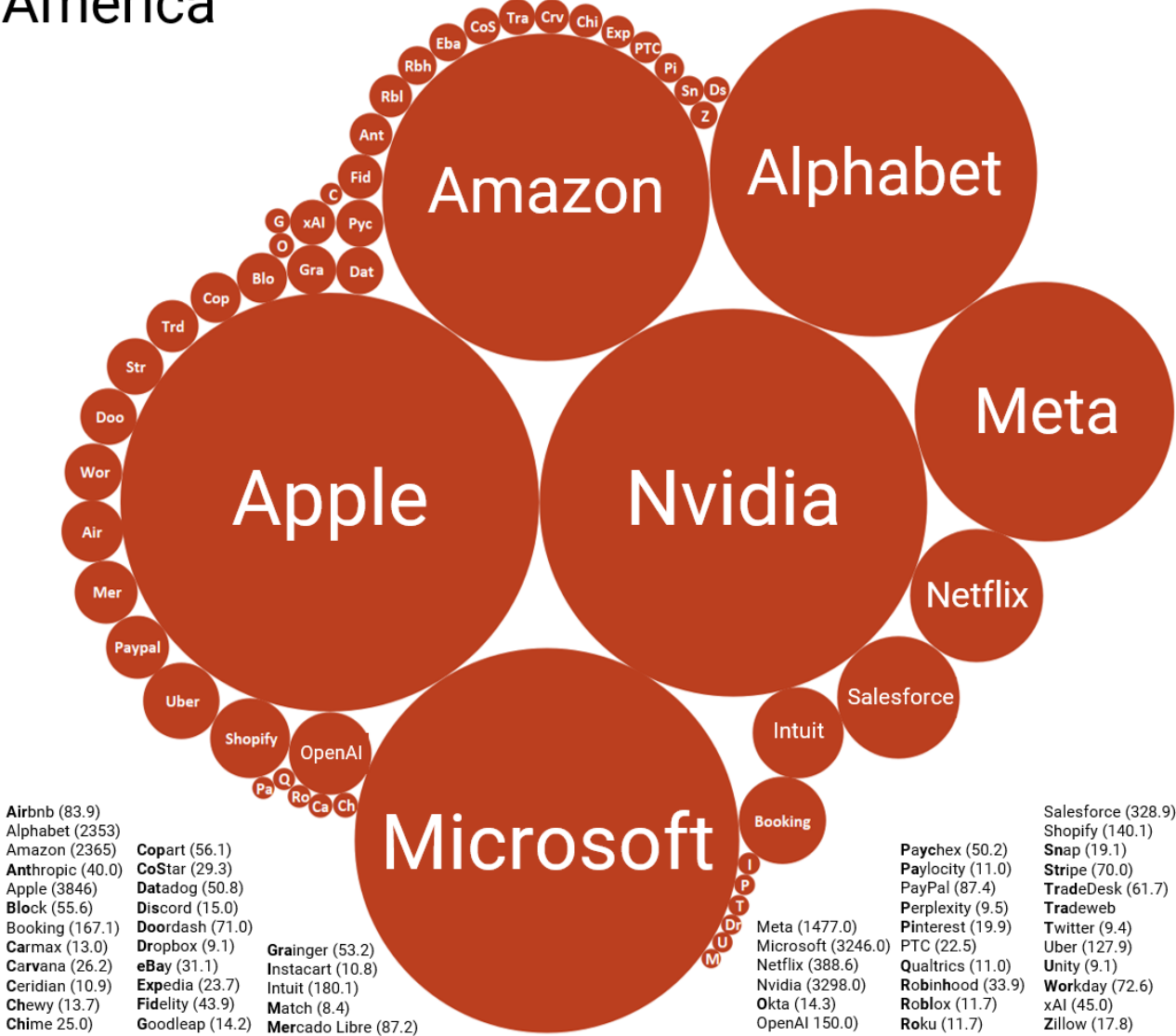
RANK	COMPANY	FOUNDED	US\$bn
1.	 PetroChina	1999	728
2.	 EXXON	1870	492
3.		1892	358
4.	 中国移动 China Mobile	1997	344
5.	 ICBC	1984	336
6.	 GAZPROM	1989	332
7.	 Microsoft	1975	313
8.		1907	266
9.	 SINOPEC	2000	257
10.	 AT&T	1885	238

Sources: Bloomberg, Google

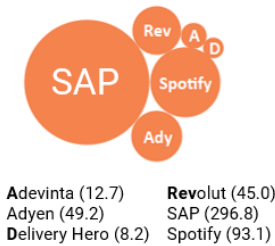
Top 100 Worldwide Platforms

Market Cap / Valuation based on most recent financing
Total Value: 22.67 Trillion USD
Company Values (in Billion USD)
Based on December 20, 2024

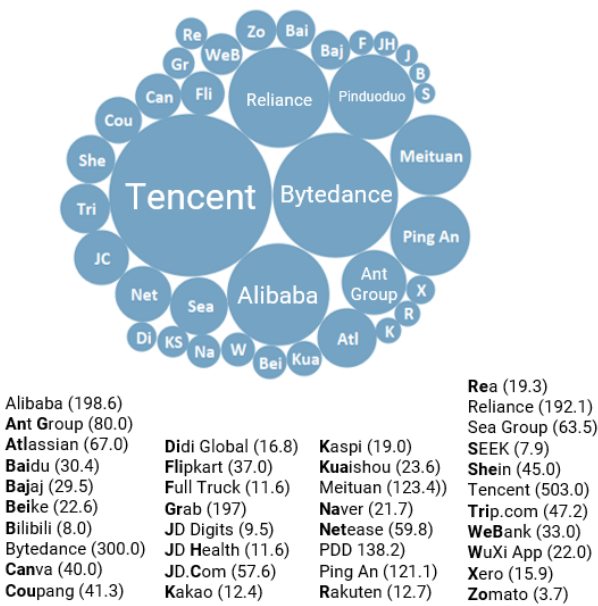
America



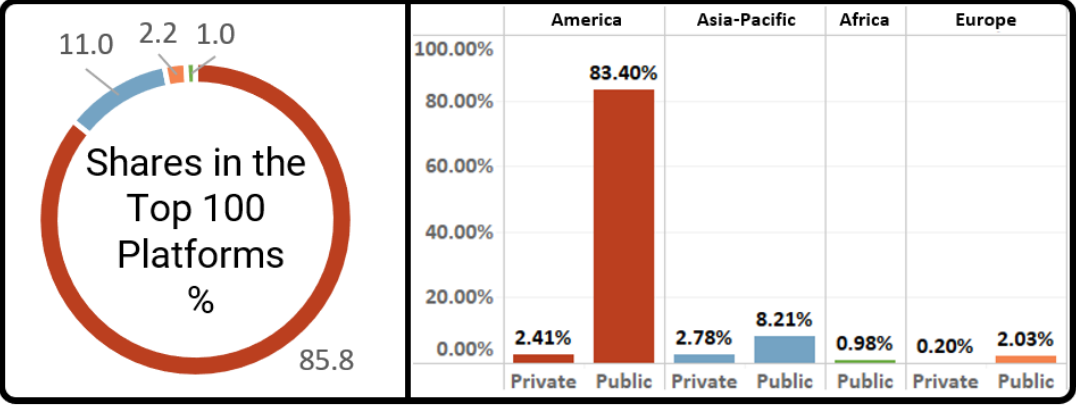
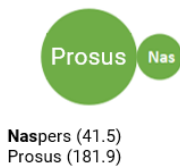
Europe



Asia-Pacific



Africa



THERE HAS BEEN A PLATFORM EXPLOSION



DIGITAL PLATFORMS & ECOSYSTEMS: *THE NEW DOMINANT ORGANIZATIONAL FORMS OF THE DIGITAL AGE*

**Pervasive
Connectivity / AI / Cloud
/ Big Data /**

**New complementarities across
technologies, organizations, markets
and sectors**

**Digital
Transformation**

New ways to create value

**New organizational
forms**

**Digital platforms and
ecosystems**



Gawer, A (2022) *Innovation: Organization & Management*
Digital platforms and ecosystems:
Remarks on the dominant
organizational forms of the digital

PLATFORMS COME IN DIFFERENT SIZES AND FORMS



Google

LinkedIn

facebook

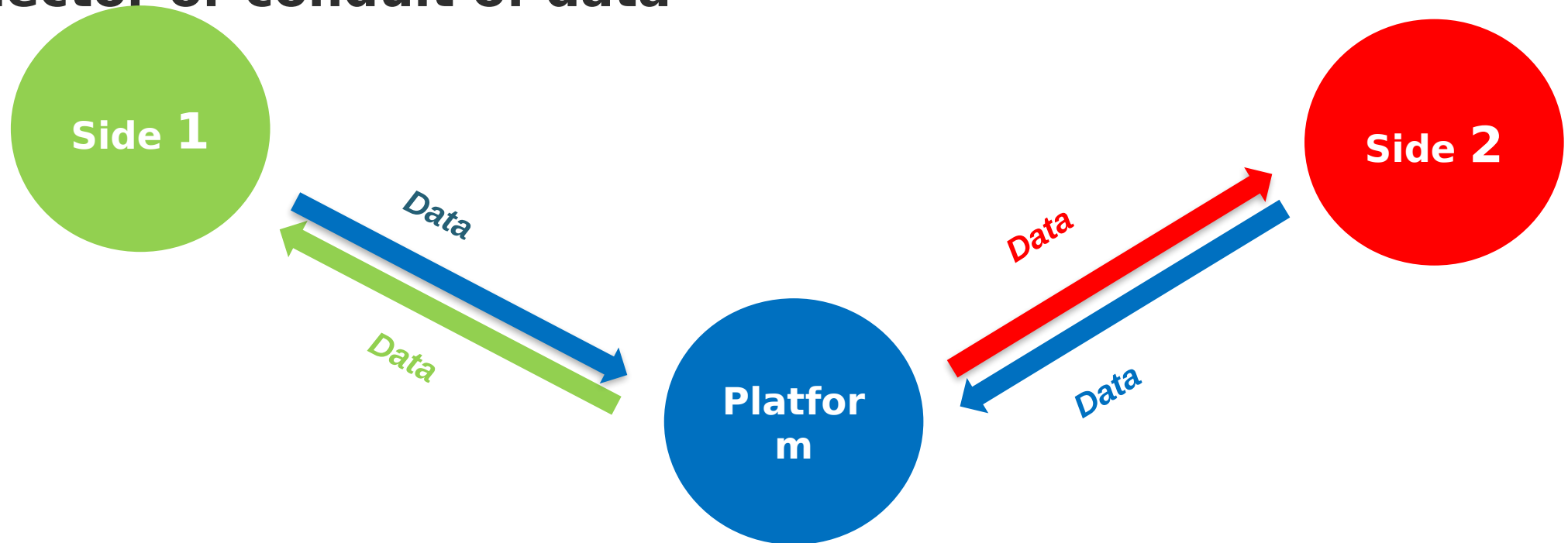
PHYSICAL INTERFACES

- A **physical interface** structures the **ways in which** modules in a physical - material context connect to each other. It is located at the boundary between the modules. It is therefore acts a **demarcation** and as a **connector** between modules

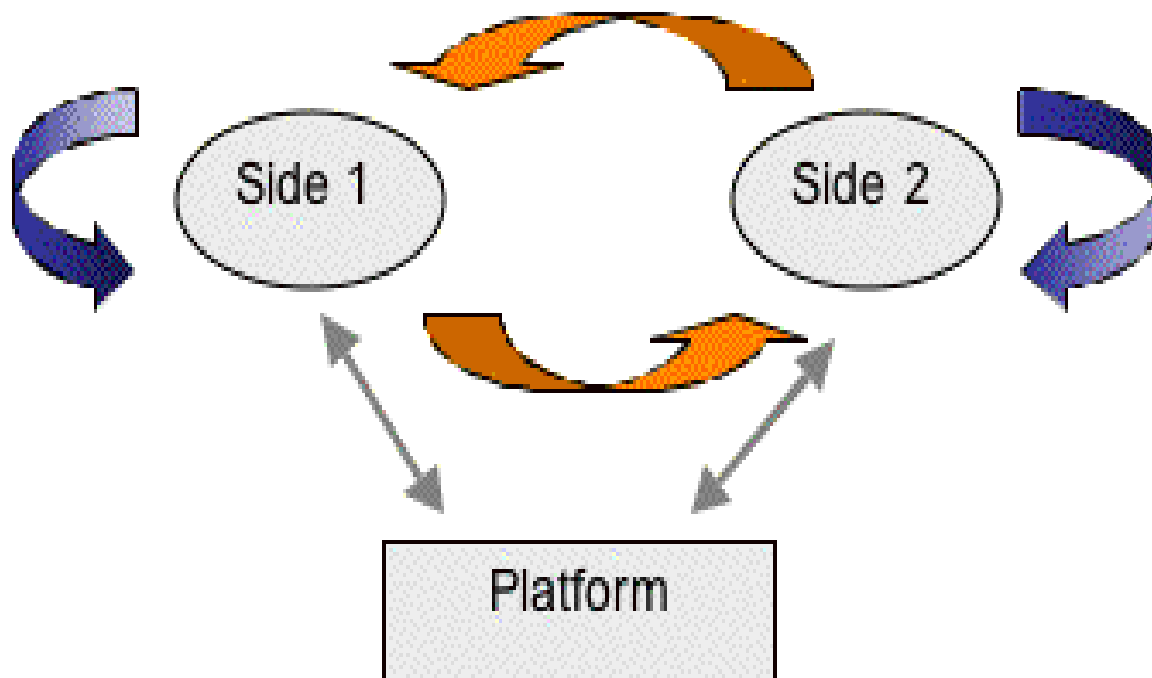


DIGITAL INTERFACES

- A **digital interface** structures the **modalities of interconnection** between various agents in a digitalized connected context. It therefore acts **as a demarcation between agents and as a connector or conduit of data**



TRANSACTION PLATFORMS



INDIRECT NETWORK EFFECTS

eBay Sellers
Uber Drivers
Xbox Developers
Amex Merchants
YouTube
Videographers
Airbnb Rooms
Tesla Charge
Stations
Mechanical Turk
Laborers
LinkedIn
Employers
Developers



eBay Buyers
Uber Riders
Xbox Gamers
Amex Card Holders
YouTube Viewers
Airbnb Renters
Tesla Car Drivers
Mechanical Turk
Jobs
LinkedIn
Employees
App Developers

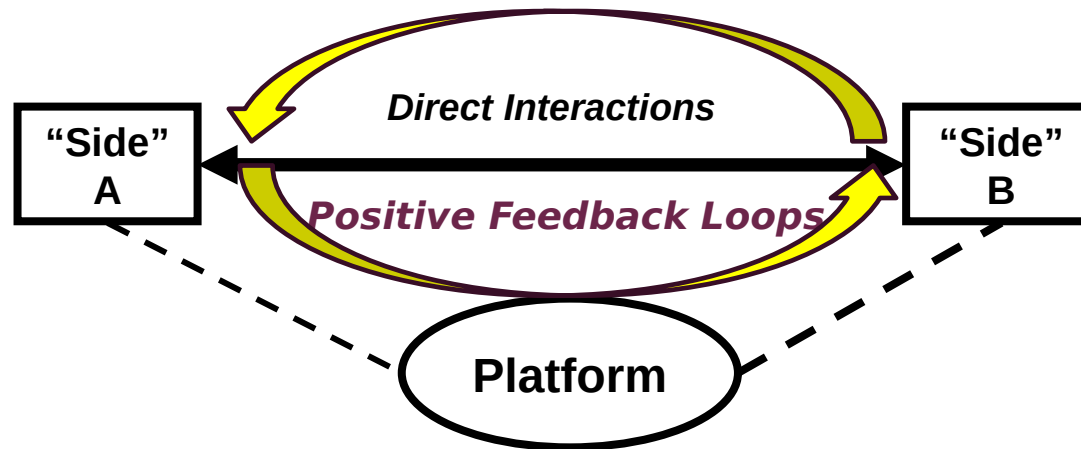
**Each Side Attracts
More of the Other**

Platforms directly connect two or more sides of a market

(e.g., buyers & sellers, renters & property owners, or users & app developers).

Platforms reduce search and/or transaction costs for one or multiple sides.

Platforms generate value by exploiting positive feedback loops & network effects.



INNOVATION PLATFORMS

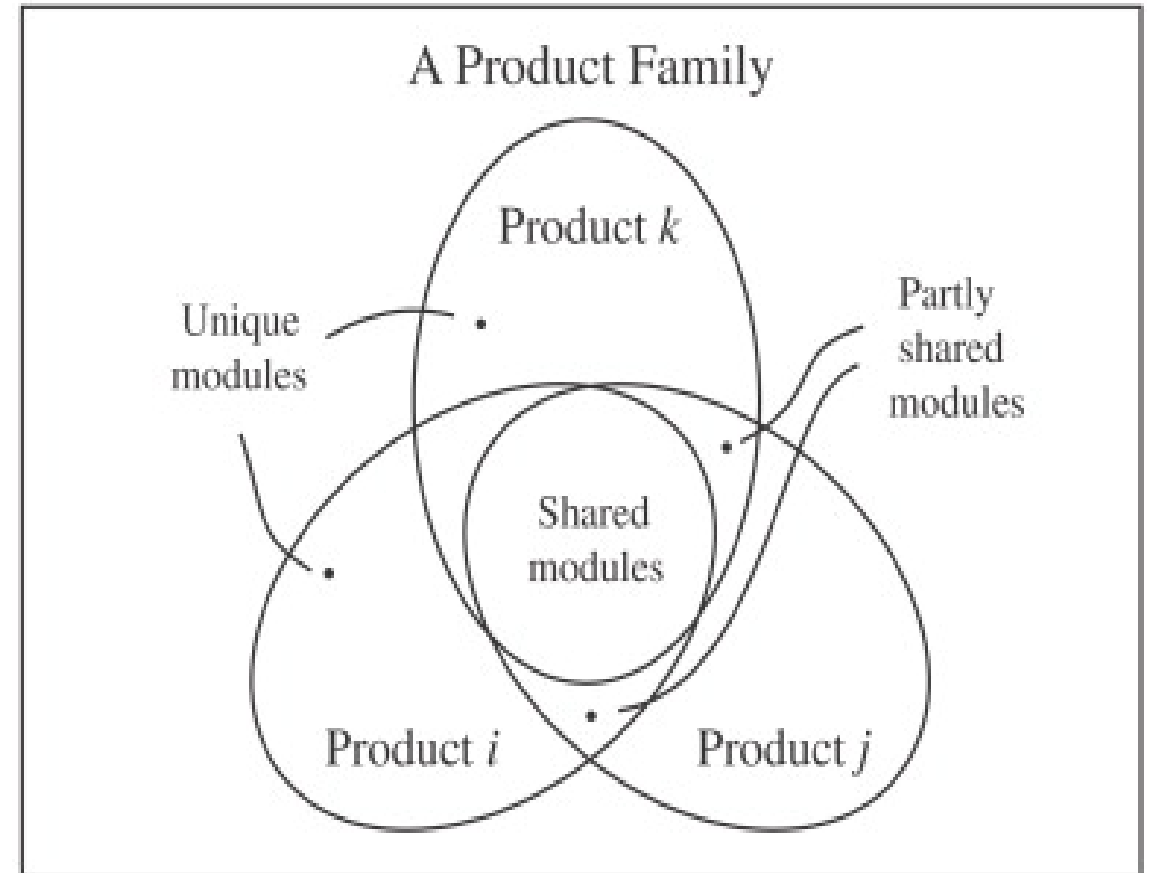


A platform is a system that can be adapted to countless needs and niches that the platform's original developers could not possibly have contemplated...

Mark Andreessen
Venture Capitalist, Netscape Founder,
Board: HP, eBay (formerly), Facebook
«The 3 kinds of platforms you meet on the Internet» (2007)

INNOVATION PLATFORMS

Innovation platforms are technologies that facilitate the development of complementary innovation in innovation ecosystems.



UNIVERSITY OF CALicut
SCHOOL OF DISTANCE EDUCATION
B.A POLITICAL SCIENCE



Supply Chain Platforms

Ex. VW Audi Platforms for Electric Vehicles



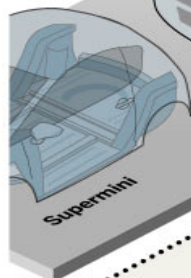
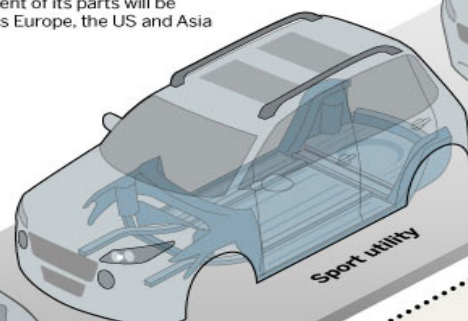
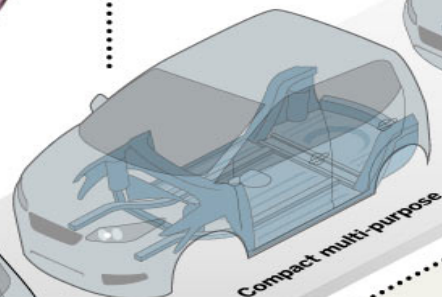
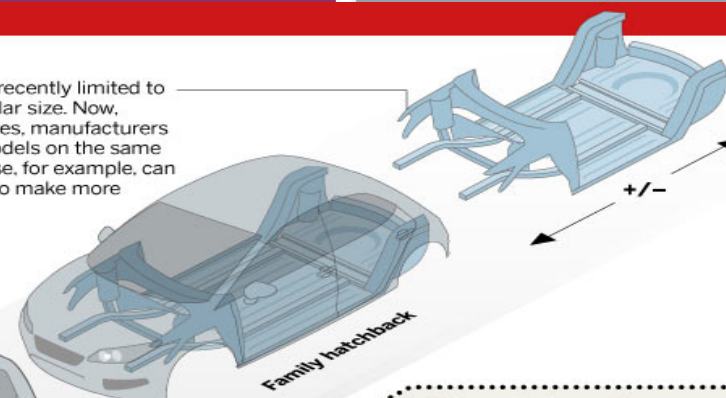
Flexible manufacturing and the rise of cars built to work worldwide



Ford calls the new global version of its midsize Focus, out from 2011, a 'world car'. About 80 per cent of its parts will be common across Europe, the US and Asia
Photo: Getty

Flexible platforms

Platform sharing was until recently limited to vehicles of identical or similar size. Now, thanks to industrial advances, manufacturers can make very different models on the same production line. A wheelbase, for example, can be moved by a few inches to make more space for rear passengers



The modular toolbox

The concept of the platform has evolved dramatically in the past decade. Carmakers have found ways of sharing components or large modules among vehicles of different sizes in a much more flexible way, enabling them to spread development costs for important parts

Axes

The Lego-like modular system allows a high-end or low-end axle to be added, enabling manufacturers to tailor models to meet high or low price points

Infotainment systems

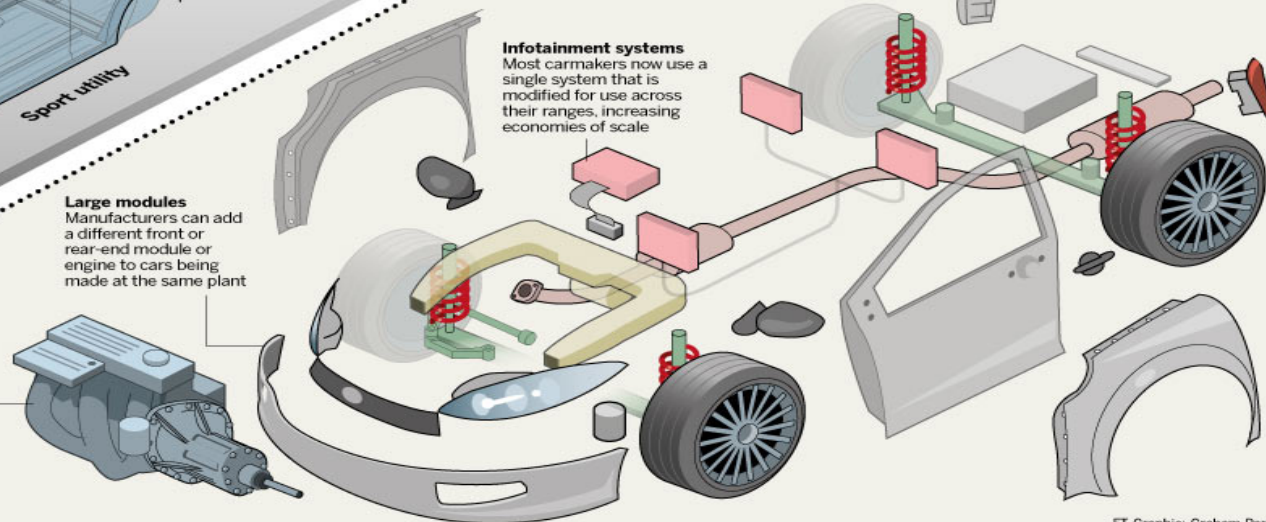
Most carmakers now use a single system that is modified for use across their ranges, increasing economies of scale

Large modules

Manufacturers can add a different front or rear-end module or engine to cars being made at the same plant

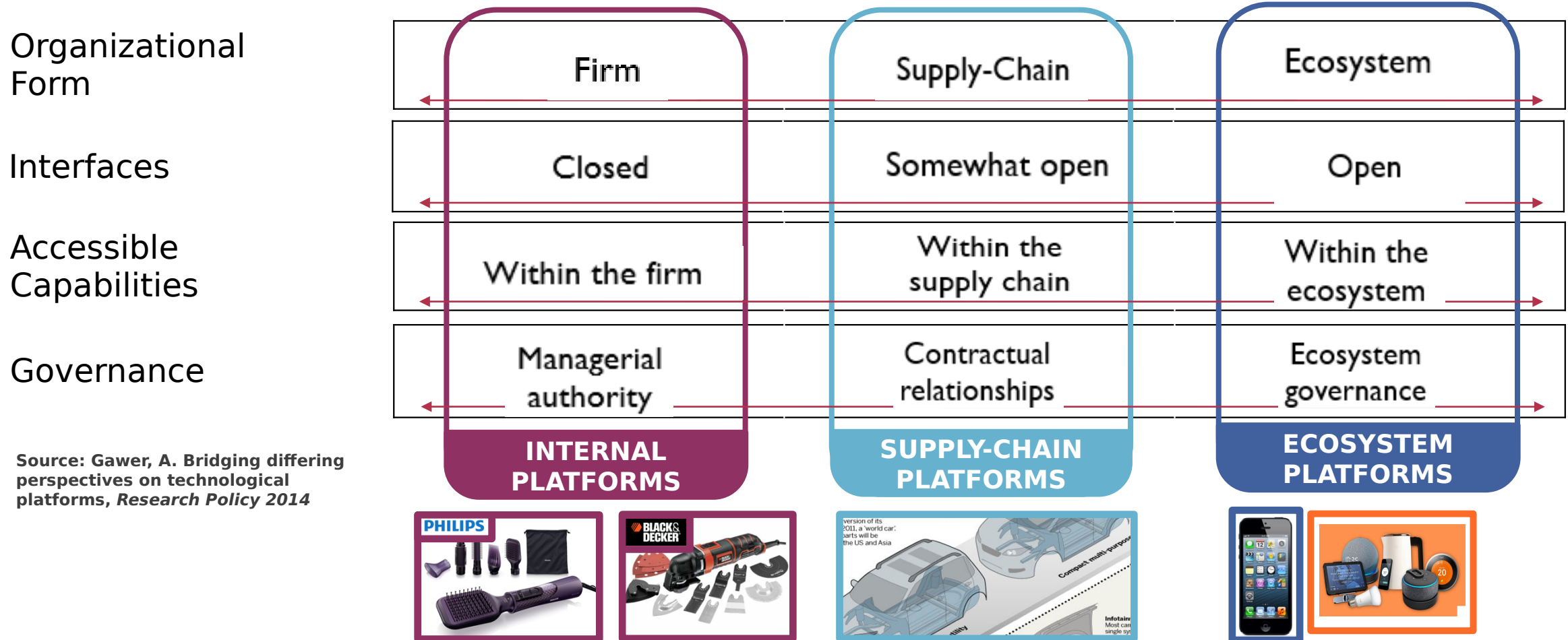
Engines

In modular block design, the engine's allotted space and point of connection with the chassis are fixed in a way that allows carmakers to produce several very different models on the same production line



FT Graphic: Graham Parrish

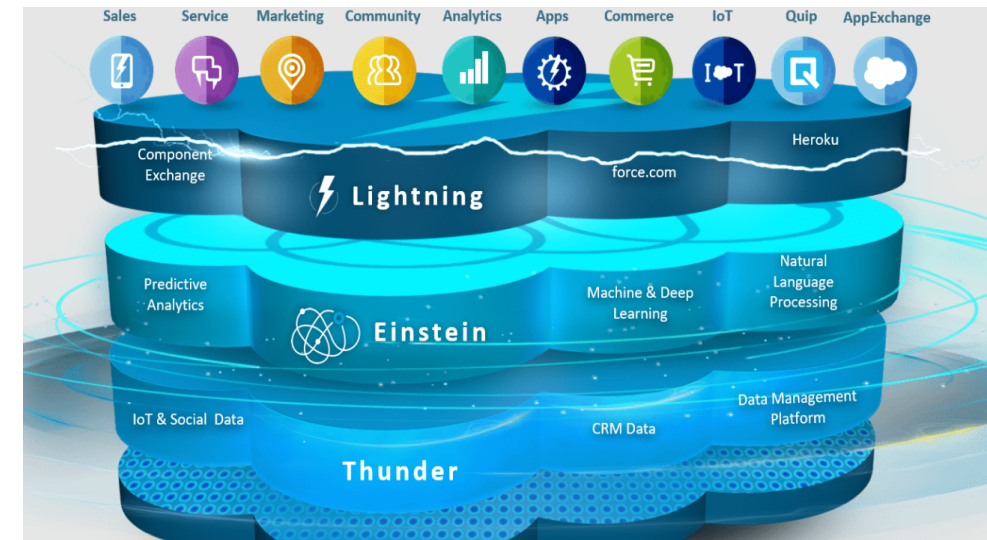
Ecosystem Platforms vs. Internal Product Platforms

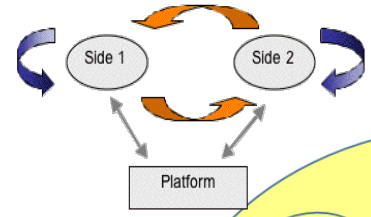




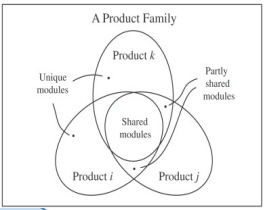
PLATFORM-BASED ECOSYSTEMS

EX. SMART HOME VOICE-ASSISTANT & IOT ECOSYSTEM
 EX. SALESFORCE ECOSYSTEM





Hybrid Companies



Transaction Platforms

- Snapchat
- Steam (Valve)
- Match.com
- Airbnb
- JD.com
- Uber
- Lending Club
- TripAdvisor
- Amazon Marketplace
- Baidu
- Instagram
- Pinterest
- Twitter
- LinkedIn
- Rakuten
- Alibaba
- WeChat
- Apple AppStore
- Google Play
- Windows Store
- SalesForce AppExchange
- Facebook social network

Innovation Platforms

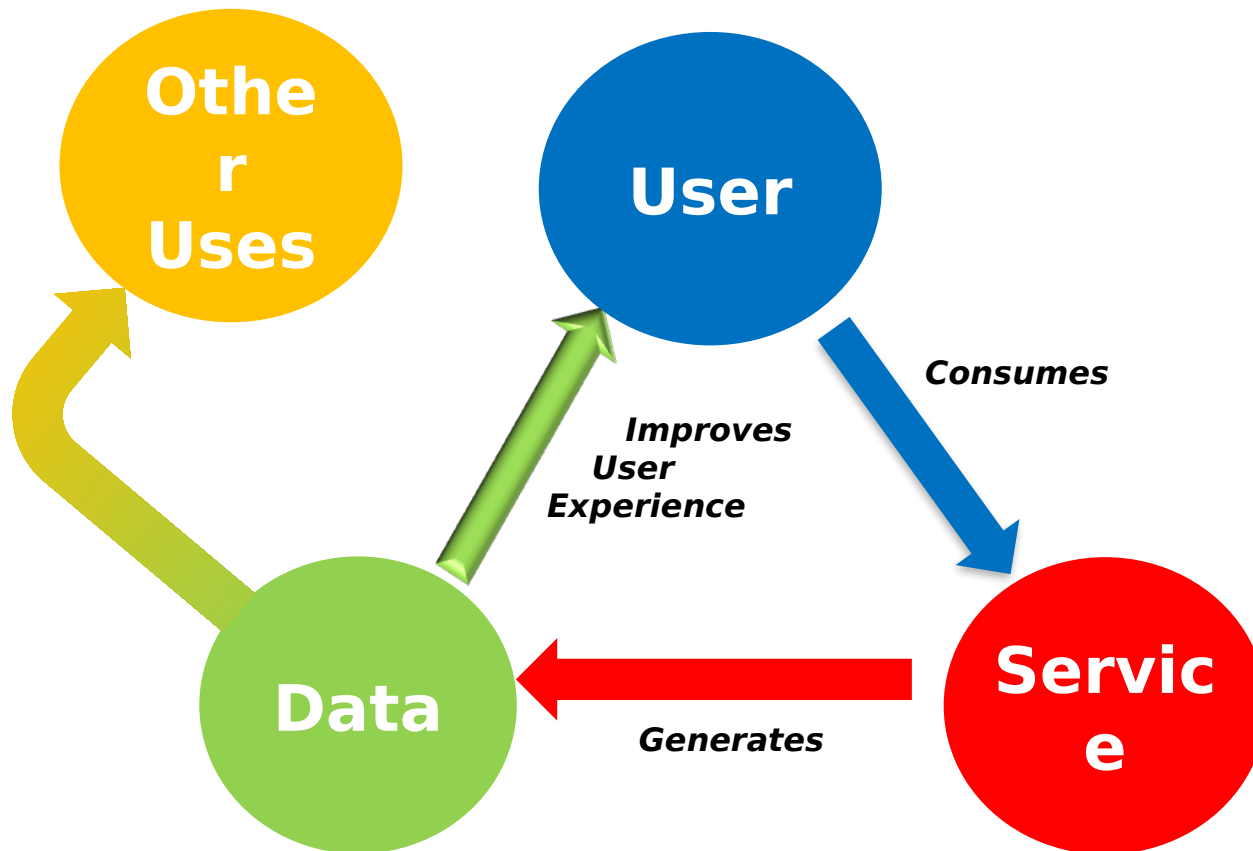
- Apple
- Google
- Microsoft
- SalesForce
- Valve
- Facebook
- Tencent
- Amazon
- Apple iOS
- Google Android
- Microsoft Azure
- Force.com
- Steam
- Facebook for Developers
- WeChat
- Amazon AWS
- GE Predix
- ARM
- Sony Playstation
- Intel CPU
- SAP NetWeaver
- Qualcomm Brew
- IBM Watson
- Nintendo

Transactions
The platform serves as an intermediary for direct exchange or transactions, subject to network effects

Innovations
The platform serves as a technological foundation upon which other firms develop complementary innovations



COMPLEMENTARITIES IN DATA GENERATION AND CONSUMPTION ALLOWS LEVERAGING DATA ACROSS SILOS, USERS, AND ORGANIZATIONS



RULES OF THE DATA FEEDBACK LOOP

**As users consume data,
they also generate data**

**Data does not get «depleted» as it gets
«consumed» (non-rival good)**

**Data-as-output CAN be used as further input to
improve services**

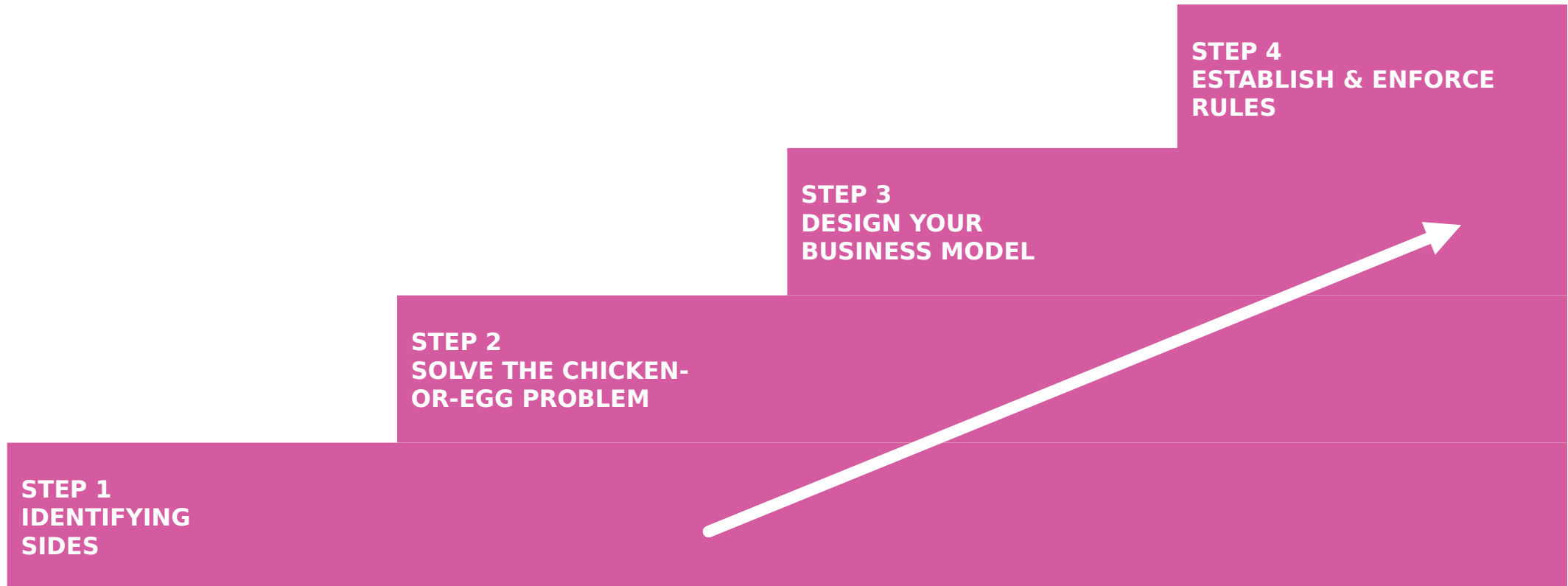
**... and can also be used for other purposes (such
as profiling users or entering new markets)**



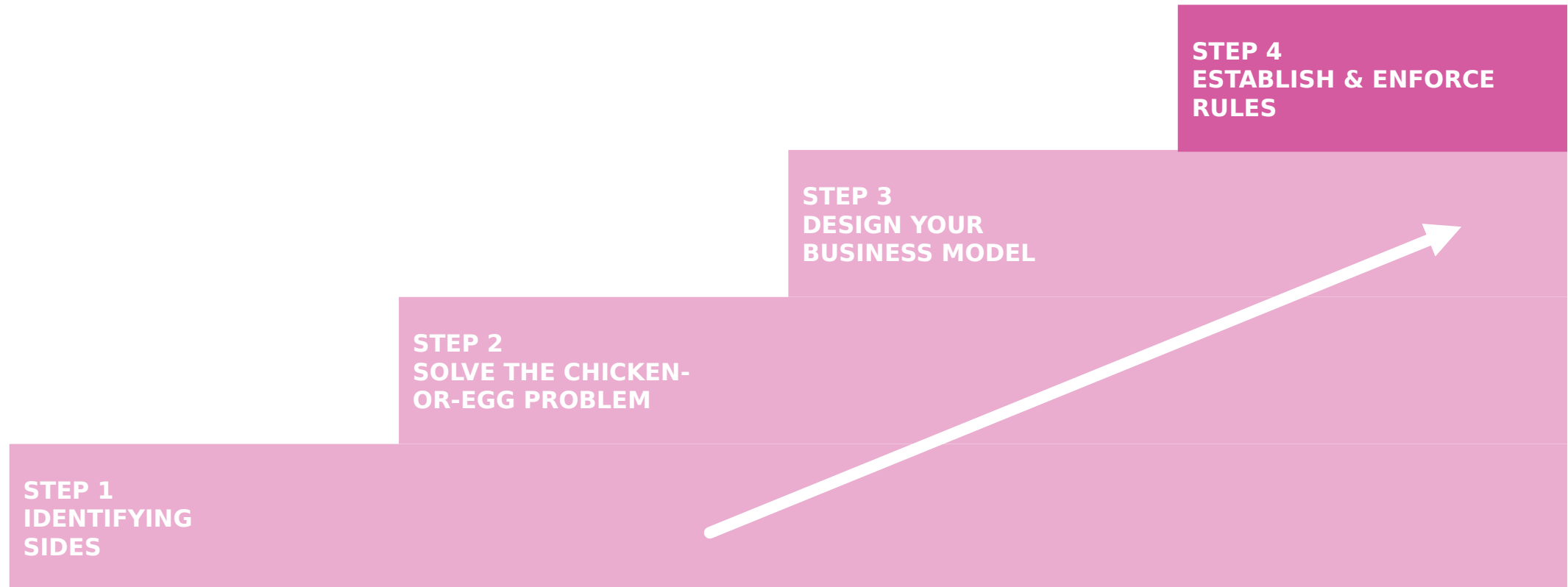
Accelerating mechanisms

=> Self-reinforcing sources of competitive advantage

THE FOUR STEPS OF BUILDING A PROFITABLE PLATFORM BUSINESS



THE FOUR STEPS OF BUILDING A PROFITABLE PLATFORM BUSINESS



PLATFORM GOVERNANCE = ECOSYSTEM RULES



**WHAT ACTIVITIES
DO YOU ALLOW?**



**WHAT ACTIVITIES
DO YOU PROHIBIT?**



**WHOM DO YOU ALLOW
TO DO WHAT?**

PLATFORM GOVERNANCE

ABUSES OF POWER AND PLATFORM REGULATION

The Digital Economy has created new forms of *competition*, new ways to *transact* and new ways to *innovate*, giving birth to new forms of business organization:

Digital Ecosystems & Platforms, who operate using *new business models*,
sustain *new kinds of power*,
and generate *new kinds of failure: ecosystem governance failures*

THE PARADOX OF DIGITAL PLATFORMS

- **Distributed** patterns of **value creation**
- But*
- **Centralized** modality of **value capture**



Gawer, A (2022) *Innovation: Organization & Management*
Digital platforms and ecosystems: Remarks on the dominant organizational forms of the digital age



Gawer, A & Srnicek, N. (2022) *Report for the European Parliament*
Online platforms : Economic and societal effects

PLATFORM FIRMS ARE THE GOVERNORS OF PRIVATELY-GOVERNED ECOSYSTEMS

**From Decentralized
modalities of value
creation**

**To Centralized modalities of value
capture**

**From Foundations
...**

To Bottlenecks




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Online platforms : Economic and societal effects

Perception of BigTech from “darling mavericks” ... to “monopolistic ogres”





The biggest platforms Apple, Amazon, Alphabet (Google), Microsoft, and Meta (Facebook) have become so large and valuable that they appear to be more influential and wealthier than many governments

*Google and Facebook dominate 2/3 of digital advertising

*Apple earns 90% of the world's profit in smartphones

*Amazon has 40% of e-commerce in the US

They are shaping the AI landscape

ONLINE PLATFORMS

Economic and Societal Effects

Prof. Annabelle Gawer

University of Surrey & Oxford University



Online
platforms:
Economic and
societal effects



STUDY

Panel for the Future of Science and Technology

EPRS | European Parliamentary Research Service

Scientific Foresight Unit (STOA)

PE 656.336 – March 2021

EN

From Tech Darlings to Tech Backlash

1975

TUESDAY, MAY 20, 1975

The New York Times

BUSINESS/FINANCE

53



Charles F. Luce, chairman of Con Edison, conducting the annual meeting yesterday at the Felt Forum. Above him are charts showing parts of Con Edison's financial position.

Con Ed Chief, at Meeting, Scores Taxes and Ecologists

By REGINALD STUART
Shareholders of the Consolidated Edison Company of New York were told yesterday at the annual meeting that earnings were expected to improve again this year, but that long-term recovery depended on a number of other factors, including greater use of nuclear energy and relaxation of environmental standards.

Charles F. Luce, chairman of Con Edison, the nation's largest investor-owned power company, also said that the company's position as New York City's largest taxpayer affected the company's future significantly.

An audience of some 1,700

gathered at the Madison Square Garden Felt Forum gave Mr. Luce a mixture of compliments and sterning the company away from its brush with financial disaster last year and more criticism and calls for his resignation.

Last year, when some 4,000 people attended the annual meeting, there were jeers and boos for management during a heated session that resulted from the company's decision of its dividend for the first time since 1885.

"The futures of all of us in this meeting are inextricably bound to the future of our city. It can be saved and we must save it," he said. "To do so will require that our Mayor and City Council, as well as the Congress and the State Legislature, take stern and unpopular measures to bring the city's budget into true balance," Mr. Luce said. But beyond calling for budget cuts, Mr. Luce would not comment further on the subject.

He did, however, renew his attack on the city's taxing practices, which cost Con Edison nearly \$400 million last year. He also criticized environmentalists when he said caused many of the problems Con Edison has been facing in recent years. He said environmentalists had contributed to the company's financial crisis of 1974.

"There comes a point when human environment must prevail over fish habitat," Mr. Luce said. "I think in New York we've reached it."

Mr. Luce's comments were obviously aimed at environmental actions that have held up construction of some proposed Con Edison facilities, such as the Storm King pumped storage plant, and in other cases required additional investment in selling and administrative expense.

Sales in the quarter, except for Sears operations in Texas and a few Western markets, had been soft in the Middle West, the East, the Southeast

SEARS PROFIT OFF 60% IN QUARTER

Volume Contracts by 2%—Net Income Also Tumbles at the Allstate Group

By ISADORE BARMAN
Special to The New York Times
CHICAGO, May 19—Sears, Roebuck & Co., the country's largest retailer, told its shareholders here today that its profits for the first fiscal quarter ended April 30 dropped 69.8 per cent from the year-earlier level on 2 per cent lower sales.

I.B.M. Antitrust Suit Opens With U.S. Seeking Break-Up



Frank T. Cary, I.B.M. chairman, in court yesterday

Justice Department to Use Company's Files in Evidence

By WILLIAM D. SMITH
The largest antitrust case in history, the United States vs. the International Business Machines Corporation, opened yesterday in Federal Court for the Southern District of New York with Justice Department attorneys indicating that a considerable portion of their attempted proof of monopolistic practices would come from I.B.M.'s own internal documents and data.

The civil suit, which was filed in January, 1969, as the last official act of the Johnson Administration, charges I.B.M. with deliberately monopolizing the general purpose computer industry and asks that I.B.M. be broken up into "several discrete, separate, independent and competitively balanced entities."

The trial opened at 10:30 A.M. as Chief Judge David N. Edelstein walked into the crowded, wood-paneled courtroom on the first floor of the Federal Court building on Foley Square. The monetary trial is expected to take a year to complete. Judge Edelstein, 65 years old, who will be the sole arbitrator, is expected to take another year to reach his decision.

A team of Justice Department lawyers, headed by Raymond M. Carroll and Joseph H. Widener, presented the Government's opening statement pointing to various areas in which the Justice Department would try to demonstrate monopoly power and the intent to use this power by I.B.M.

Judge as a 'Hostage'

David Northon Edelstein

By TOM GOLDSTEIN

When David N. Edelstein was named to the Federal bench 24 years ago, he drove a Lincoln. Now he drives a compact Pontiac. "It's a story of riches to rags," the judge said. "My wife and I have been subsidizing this job out of private resources for years."

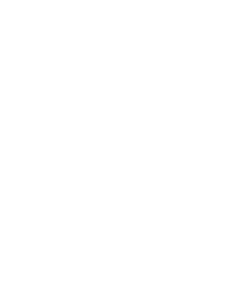
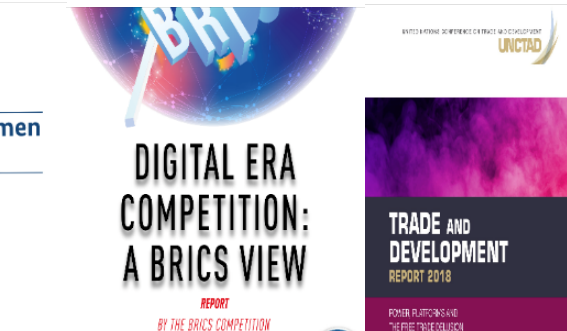
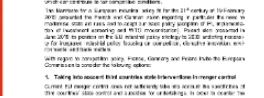
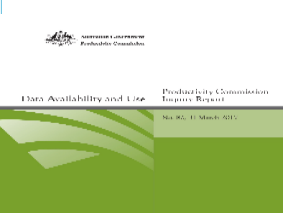
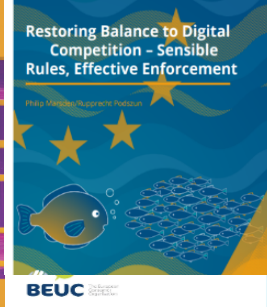


"I've lived with the case... but that's desirable."

Dow Index Edges Up 0.08 To Recover Earlier Loss

HIGH COURT LIMITS INVESTOR APPEALS

Corporation Bonds Show Price Rises;



How do online platforms create value?

- Facilitate connections, network effects
- Innovative business models
- Transactions
- Innovation

Positive effects on consumers, business, competition & innovation

- ▶ High usage
- ▶ Most consumers and businesses benefit
- ▶ R&D investment

Negative effects on consumers, business, competition & innovation

- ▶ Centrality and dominance
- ▶ Gatekeepers, antitrust violations
- ▶ Killer acquisitions?

Effects on employment

- ▶ New jobs, flexibility but also precarity
- ▶ Risks shifted to workers
- ▶ Workers ongoing surveillance and control
- ▶ Lack of collective organisation

Effects on consumer & societal risks

- ▶ Lack of accountability
- ▶ Privacy risks & Online harms
- ▶ A surveillance society?
- ▶ Fake news, society polarisation, dangers to democracy?

Regulatory challenges

- ▶ Limits of traditional antitrust
- ▶ Accumulation of data: Violation of privacy and competition
- ▶ Avoidance of sectoral regulation
- ▶ Illegal and harmful content

PLATFORMS RESPONSIBILITY & LIABILITY

Online Harm

Hateful Content

**Internet
addiction**

**Manipulation /
Dark Patterns /
Deepfakes**

Opacity

**Concentration of
economic, media,
data, and political
power, potentially
dangerous for
democracies**

PLATFORMS RESPONSIBILITIES



AS a few online platforms have achieved centrality and dominance, society is asking of them to act responsibly and fairly



From Big Tech Backlash to New Regulation





- Intended to complement existing competition rules
- aiming to address conduct on an **ex-ante** *rather than ex-post* basis, more quickly, and to deal with practices which fall outside the competition rules (or that cannot be effectively addressed by them)

WHO WILL BE
SUBJECT TO THE
DMA ?
GATEKEEPERS

Who are ***Gatekeepers***? There are 3 main cumulative criteria

- A size that impacts the internal EU market: turnover greater than 7.5 billion euros (in the EEA)
- The control of an important gateway: more than 10,000 yearly active business users established in the EU in the last financial year
- An entrenched and durable position

DMA: CONSEQUENCES OF BEING IDENTIFIED AS A GATEKEEPER?


Carrying extra responsibilities, List of Do's and Don't

Up to 10% fines of the company total turnover worldwide or 20% in case of repeated infringement


DMA'S SUMMARY LIST OF DOS & DON'TS

- Freedom on app stores
- Prohibition of anti-steering practices
- Users' freedom to set defaults
- Restrictions on gatekeepers' use of data
- Access to gatekeepers' data
- Prohibition of self-preferencing
- Prohibition of tying
- Advertising transparency
- Interoperability

Many, many regulations!




EU Digital Governance Snapshot




Navigate the EU's digital law and governance framework


Data & privacy




GDPR
Regulation (EU)
2016/679




Data Protection
Law Enforcement
Directive 2016/680




ePrivacy
Directive
2002/58



Data Act
Regulation (EU)
2023/2854




Data
Governance Act
2022/868




Open Data
Directive
2019/1024


Cyber security




NIS 2
Directive
2022/2555




EU Cybersecurity
Regulation (EU)
2023/2841




Cybersecurity
Act
2019/881



Cyber
Resilience Act
2024/2847




Digital Operational
Resilience Act
2022/2554




Cyber
Solidarity Act
2025/38


AI, trust & safety




EU
AI Act
2024/1689




Product Liability
Directive
2024/2853




General Product
Safety Regulation
2023/988



Machinery
Regulation
2023/1230




European Digital
Identity Framework
(eIDAS) 2024/1183




Crypto-assets
Regulation
2023/1114


Platforms & media




Digital Markets
Act
2022/1925




Digital Services
Act
2022/2065




Copyright
Directive
2019/790




Platform Work
Directive
2024/2831



Digital Content &
Digital Services
Directive
2019/770




Political
Advertising
Regulation (EU)
2024/900




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AI GOVERNANCE



In Europe: Many regulations !









EU Digital Governance Snapshot









Navigate the EU's digital law and governance framework







Data & privacy

 GDPR Regulation (EU) 2016/679	 Data Protection Law Enforcement Directive 2016/680	 ePrivacy Directive 2002/58	 Data Act Regulation (EU) 2023/2854	 Data Governance Act 2022/868	 Open Data Directive 2019/1024
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Cyber security


 NIS 2 Directive 2022/2555	 EU Cybersecurity Regulation (EU) 2023/2841	 Cybersecurity Act 2019/881	 Cyber Resilience Act 2024/2847	 Digital Operational Resilience Act 2022/2554	 Cyber Solidarity Act 2025/38
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AI, trust & safety

 EU AI Act 2024/1689	 Product Liability Directive 2024/2853	 General Product Safety Regulation 2023/988	 Machinery Regulation 2023/1230	 European Digital Identity Framework (eIDAS) 2024/1183	 Crypto-assets Regulation 2023/1114
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Platforms & media

 Digital Markets Act 2022/1925	 Digital Services Act 2022/2065	 Copyright Directive 2019/790	 Platform Work Directive 2024/2831	 Digital Content & Digital Services Directive 2019/770	 Political Advertising Regulation (EU) 2024/900
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