

A panoramic view of the Shanghai skyline at dusk or dawn. The sky is a deep blue with wispy white clouds. In the foreground, several prominent skyscrapers are visible: the Shanghai Tower (a tall, spiraling tower), the Shanghai World Financial Center (a tower with a large square cutout), and the Oriental Pearl Tower (a tower with three large spheres). The city's lights are beginning to glow, and the overall atmosphere is serene and modern.

Platformification in Business and Industries

Nofie Iman



SINGLE SIGN ON

Universitas Gadjah Mada

Selamat Datang / Welcome, nofie.iman

Pertemuan Daring?

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- The magnitude of digital platform
- Industrial constellations
- The shift towards business ecosystems in Asia
- What is digital platform?
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- Disruptive innovation and network externalities
- Digital platform challenges
- Cases: Digital platform and open banking
- Concluding remarks
















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The companies that know most about you

#	Company	% of personal data collected	Email	Name	Age	Gender/Sex	Sexual Orientation	Marital Status	Race	Religious Belief	Live Location	Home Address	Employment Status	Job Title	Pet/Animal Ownership	Mobile Number	Landline Number	Type of Phone/Device	Hobbies	Interests	Height	Weight	Next of Kin	Mother's Maiden Name	Current Employers	Past Employers	Bank Account Details	Salary	Social Profile (Friends)	Social Profile (Hobbies)	Social Profile (Interests)	Country of Birth	Allergies/Intolerances	Health & Lifestyle Info		
1	Facebook	70.59%	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●		●	●		●	●	●							
2	Instagram	58.82%	●	●	●	●					●	●	●	●	●	●		●	●	●	●	●			●	●		●	●	●						
3	Tinder	55.88%	●	●	●	●	●	●			●		●	●	●	●		●	●	●	●					●		●	●	●						
4	Grindr	52.94%	●	●	●	●	●	●			●		●	●	●	●		●	●	●	●							●	●	●						
5	Uber	52.94%	●	●	●	●					●	●	●	●		●	●	●	●	●					●	●		●	●	●						
6	Strava	41.18%	●	●	●	●					●	●				●	●				●	●				●		●	●	●						
7	Tesco	38.24%	●	●	●	●		●				●				●	●	●								●		●	●	●						
8	Spotify	35.29%	●	●	●							●				●	●	●		●						●		●	●	●						
9	MyFitnessPal	35.29%	●	●	●							●				●	●	●			●	●				●								●		
10	Jet2	35.29%	●	●	●	●		●	●			●				●	●	●								●							●			
11	Credit Karma	32.35%	●	●	●								●	●		●	●				●	●				●	●									
12	Lidl Plus	32.35%	●	●	●						●	●			●	●	●	●								●									●	
13	Netflix	26.47%	●	●	●							●				●	●	●		●						●										
14	Nike	26.47%	●	●	●	●						●					●				●	●				●										
15	Asos	26.47%	●	●	●							●				●	●				●	●				●										

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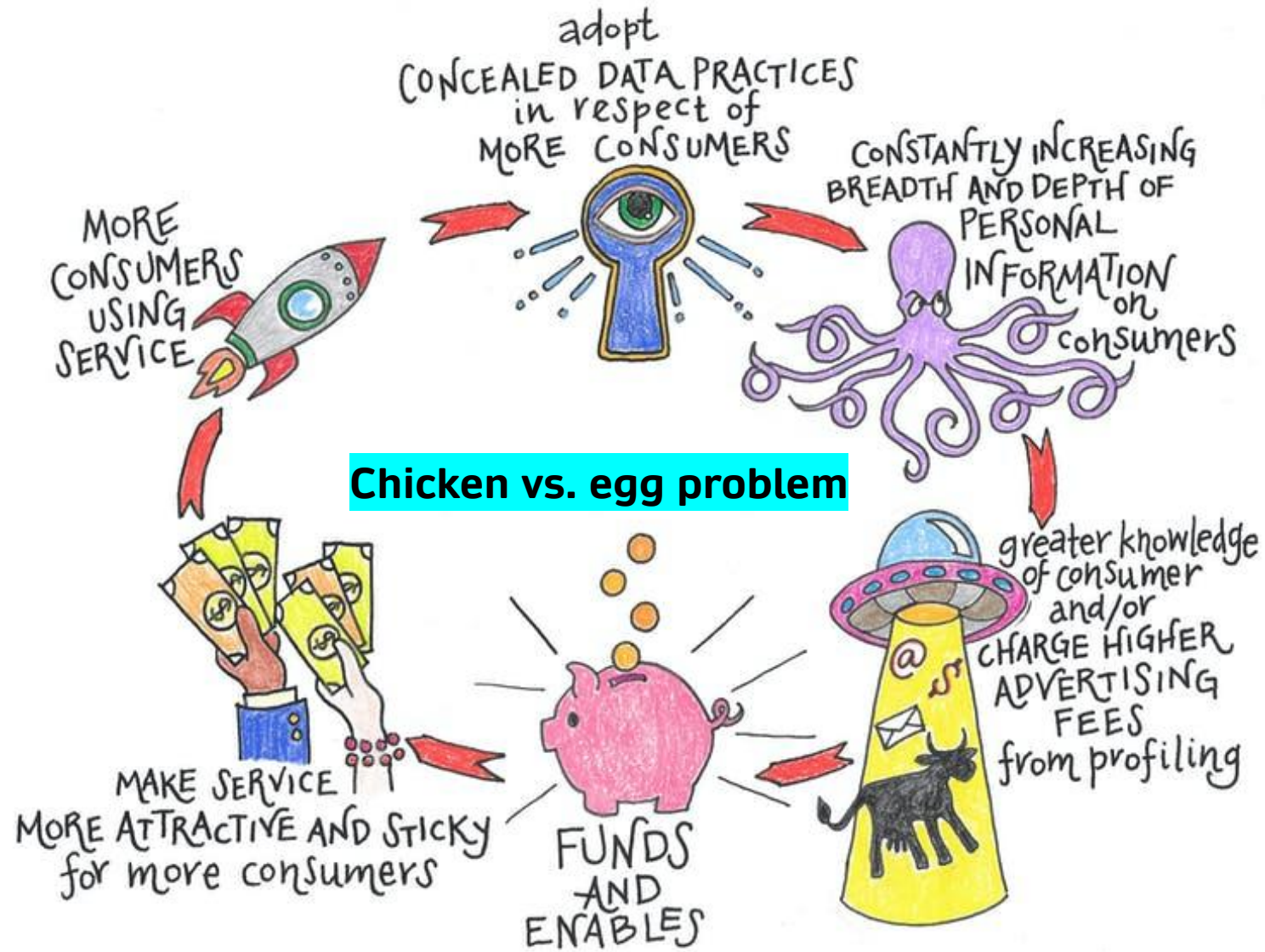
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16	 Depop	26.47%	•	•	•							•			•	•				•	•															
17	 Ryanair	26.47%	•	•	•							•				•	•	•														•				
18	 Ocado	26.47%	•	•	•							•				•	•	•								•								•		
19	 Airbnb	26.47%	•	•	•	•						•			•	•	•									•										
20	 American Airlines	26.47%	•	•	•							•				•	•	•								•										
21	 Ikea	23.53%	•	•	•							•				•	•	•								•										
22	 Trainline	23.53%	•	•	•						•	•				•	•									•										
23	 Amazon	23.53%	•	•	•							•	•			•	•	•								•										
24	 PayPal	23.53%	•	•	•							•				•	•							•		•										
25	 eBay	23.53%	•	•	•							•				•	•	•								•										
26	 Walmart	23.53%	•	•	•	•					•	•				•										•										
27	 Deliveroo	20.59%	•	•							•	•				•	•									•								•		
28	 Twitter	20.59%	•	•	•	•					•							•									•									
29	 NHS COVID-19	20.59%	•	•	•						•	•						•																	•	
30	 SlimmingWorld	20.59%		•	•	•												•		•	•														•	

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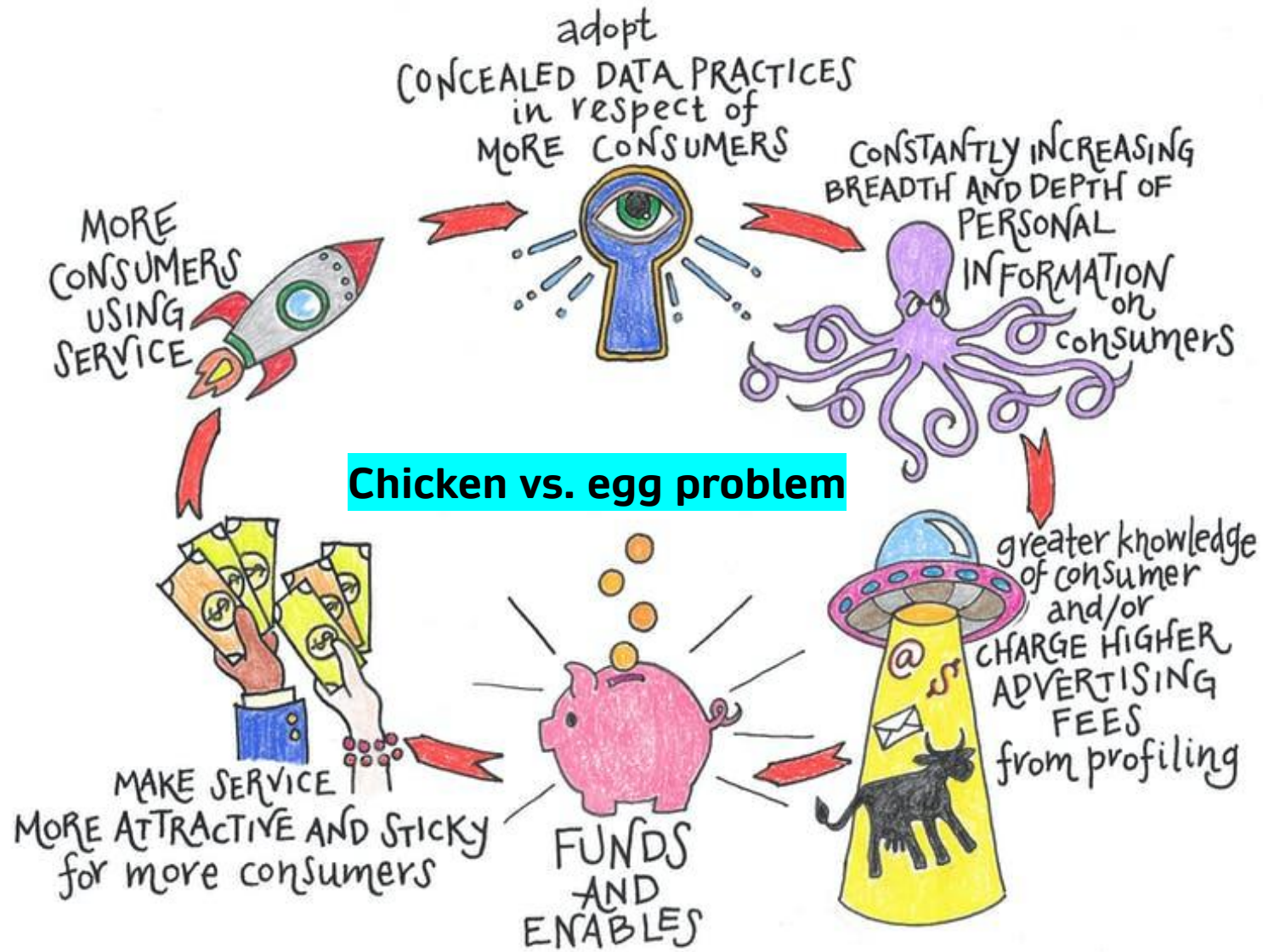
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31	Google Maps	20.59%	•	•							•	•						•						•											
32	CVS Pharmacy	20.59%	•	•	•	•						•				•								•											
33	Amtrak	20.59%	•	•	•						•		•													•									
34	Sleepcycle	20.59%	•		•	•												•		•	•					•									
35	JustEat	17.65%	•	•								•						•								•						•			
36	Offerup	17.65%	•	•							•	•				•										•									
37	Doordash	17.65%	•	•							•	•				•										•									
38	McDonalds (USA)	14.71%	•	•							•					•										•									
39	TikTok	14.71%	•	•	•													•									•								
40	Protect Scotland	14.71%		•							•	•						•																•	
41	CoStar	14.71%		•	•											•		•														•			
42	Bet365 USA	14.71%	•	•	•							•				•																			
43	Wetherspoon	14.71%	•	•							•							•								•									
44	Skybet	11.76%	•	•	•																					•									
48	Whatsapp	11.76%	•	•												•		•																	



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Firms perspective

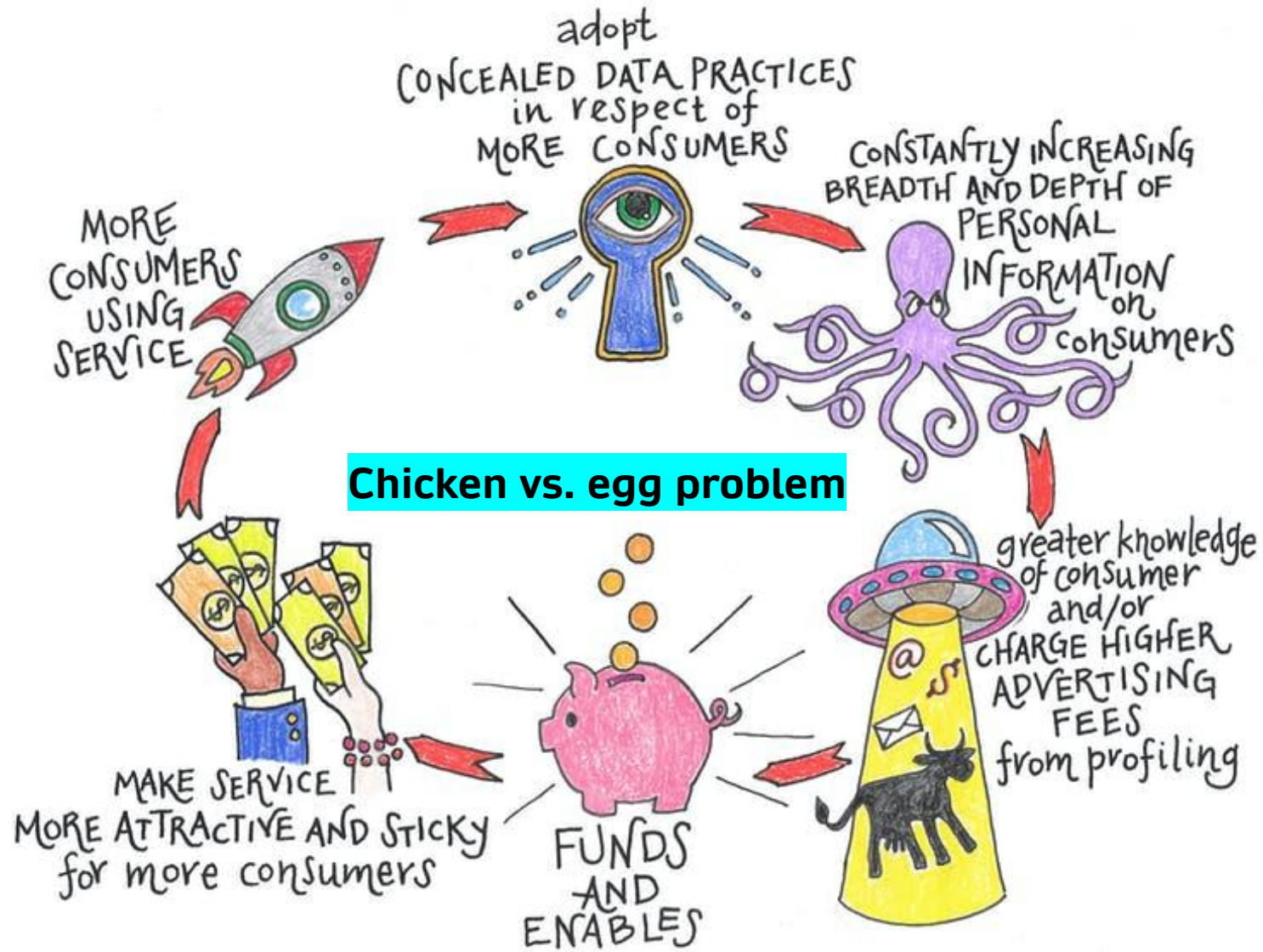
More data means better algorithms, more accurate predictions, and more input to train the AI/ML.



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Firms perspective

More data means better algorithms, more accurate predictions, and more input to train the AI/ML.



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Users perspective

More data means more potential privacy invasion, increasing risks of data breach, and less control.

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US tech giants accused of 'monopoly power'

🕒 6 October

Firms perspective

More data means better algorithms, more accurate predictions, and more input to train the AI/ML.



Users perspective

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**LARGEST GLOBAL COMPANIES IN 2018 VS 2008:
SEVEN OUT OF TEN ARE NOW BASED ON PLATFORM
BUSINESS MODELS**

2018

RANK	COMPANY	FOUNDED	US\$bn
1.	 *	1976	890
2.	 *	1998	768
3.	 *	1975	680
4.	 *	1994	592
5.	 *	2004	545
6.	 腾讯 *	1998	526
7.	BERKSHIRE HATHAWAY	1955	496
8.	 *	1999	488
9.		1886	380
10.	J.P.Morgan	1871	375

* Companies based on the platform model

2008

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

Sources: Bloomberg, Google

The Economics of Digital Platform

The Magnitude of Digital Platform

Firm	Established	Employees	Market Cap. (bn USD)	Ratio
BMW	1916	131,000	51	389,300
Uber	2009	16,000	76	4,750,000
Marriott	1927	177,000	39	220,300
Airbnb	2008	10,000	38	3,800,000
Walt Disney	1923	199,000	163	819,000
Facebook	2004	30,000	473	15,766,667
IBM	1911	350,000	125	357,000
Salesforce	1999	35,000	123	3,514,300
New York Times	1851	3,700	6	1,621,600
Twitter	2006	3,300	25	7,575,800

Source: Van Alstyne et al. (2019)

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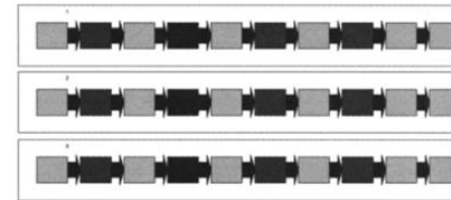
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The Magnitude of Digital Platform

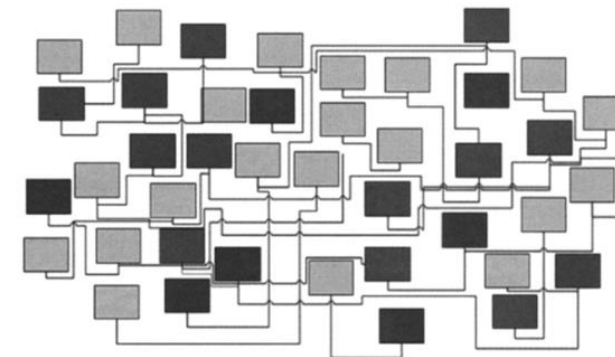
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Twitter	2006	3,300	25	7,575,800	5x
Blue Bird	1972	3,656	0.1	38,754	
Gojek	2009	3,000	9.5	2,878,788	10x

Industrial Constellations

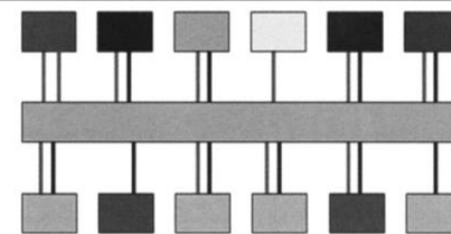
- **Closed vertically integrated model.** Strategies aimed at obtaining scale economies within mutual horizontal core businesses and expanded their activities to adjacent markets through cooperation strategies and alliances (vertical and horizontal strategies).
- **Loosely coupled coalition model.** Focal firms are using their prominence to perform a leadership role in pulling together the dispersed resources and capabilities in the network. It seeks to create and capture value from the network.
- **Multisided platform.** Emerging new business model, representing a new form of market structure and can be seen as a consequence of the disruptive innovation related to the emergence of new services and new business models.



(a) Closed Vertically Integrated Model



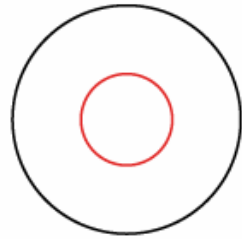
(b) Loosely Coupled Coalitions



(c) Multisided Platform

Central planning 1950s–1980s

Command/control economy
requiring access to permits
from government



Operator

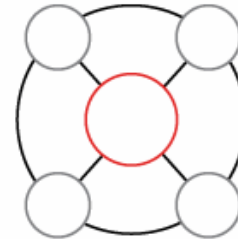
Parenting
model

- Centralized “industrial lobbying embassy”
- Top-down strategic decisions
- Largely family-run

Operating
model

Liberalization 1990s

Exploding competition, but
lagging market institutions to
support and structure growth

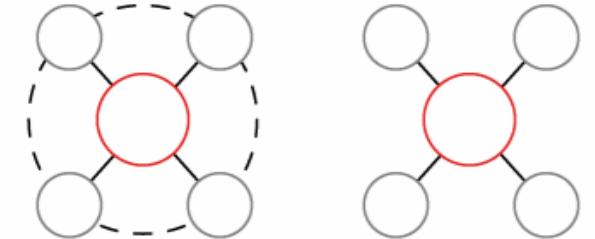


**Strategic
controller**

- Loosened reins to facilitate diverse, rapid growth
- Continued focus on filling key strategic, talent and capital gaps in the market

Market maturity 2010s

Maturing markets and
institutions, increased access
to global talent and capital



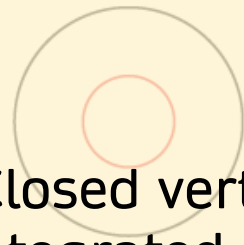
**Strategic
architect**

**Active
shareholder**

- Primarily a brand umbrella with a strong set of ethics and principles of excellence
- Central guidance to promote innovation and globalization

Central planning 1950s–1980s

Command/control economy requiring access to permits from government

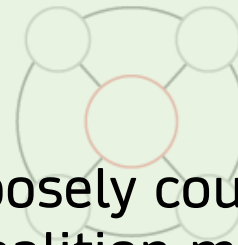


Closed vertically integrated model
Operator

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Liberalization 1990s

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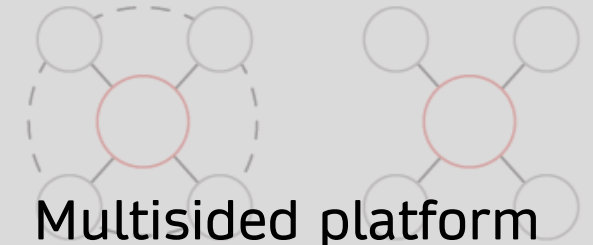


Loosely coupled coalition model
Strategic controller

- Loosened reins to facilitate diverse, rapid growth
- Continued focus on filling key strategic, talent and capital gaps in the market

Market maturity 2010s

Maturing markets and institutions, increased access to global talent and capital



Multisided platform

Strategic architect + Active shareholder

- Primarily a brand umbrella with a strong set of ethics and principles of excellence
- Central guidance to promote innovation and globalization

Parenting model

Operating model

Asia's Top 10 Richest Families

Ambani	Reliance Industries	\$50.4 bn
Kwok	Sun Hung Kai Properties	\$38 bn
Chearavanont	Charoen Pokphand Group	\$37.9 bn
Hartono	Djarum, Bank Central Asia	\$32.5 bn
Lee	Samsung	\$28.5 bn
Yoovidhya	TCP Group	\$24.5 bn
Mistry	Shapoorji Pallonji Group	\$21.1 bn
Sy	SM Investments	\$20.9 bn
Chirathivat	Central Group	\$20.3 bn
Kadoorie	CLP Holdings	18.5 bn

Source: Bloomberg News

Bloomberg | Quint

Source : Bloomberg Quint (2019)

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Kadoorie	CLP Holdings	18.5 bn






Old money conglomerates are still dominating the economy in Asia,

Source: Bloomberg News

Bloomberg | Quint

Source : Bloomberg Quint (2019)

Southeast Asia's tech ecosystems

Combined valuation	Singapore  \$60B	Indonesia  \$35B	Vietnam  \$5B	Philippines  \$4B	Malaysia  \$4B
\$1B+ companies	Grab, sea, ninjavan, trax, Lazada, bitget	tokopedia, gojek, akulaku, traveloka, Bukalapak, OVO			
\$250-1B	patsnap, ezbuy, PropertyGuru, CIRCLES.LIFE, SHOPBACK, GreyOrange, carousell, RedDoorz	sociolla, PAYFAZZ, ruang guru, modalku, finAcel, mataharimall.com	momo, VNPAY, TOPICA, Sendo	REVOLUTION PRECRAFTED, VOYAGER	iflix, axiata, CAR SOME
\$100-250M	Singlife, neuron, aspire, blueplanet, holmusk, KuCoin, trustingsocial, near, moglix, ONEBERRY, Astroscale, ECOJOBI, cxagroup, Terra, HORANGI, rotimatic, YOU TRIP, seconds, CONFLUX	investree, gudanggoda, ALODOKTER, EUREKA, PINTAR, UangMe, Shipper, fore, C88, BeliMobilGue.co.id, kargo, halodoc, Mbiz, zenius	VALIDUS, SieuViet, Nkid, PROPZY, telio, pops	First Circle, tonik, cloudstaff	COMMON GROUND, HappyFresh, aerodyne, myTukar
\$0-100M	IN MIND CLOUD, GLOBALTIX, ZENROOMS, gobear, ObvioHealth, JUST CO, EZYHAUL, ANTWORKS, StashAway, WEINVEST, dathena, CARIUMA, zenyum, SPARK, smartkarma, STYLE THEORY, Ice	KOINWORKS, Pintek, Ralali.com, travelio, Qoala, TaniHub, BATUMBU, UANGTEMAN, bobobox, ula, COHIVE, SIR CLO, chilibeli, Akseleran, fabelio, snapcart, ayopop, waresix, StickEarn, EVER M S	888, REVER, topcv, leflair, moca, manabie, Sapo, funtap, HOTTAB, HOZING, TIKI.VN, vntrip.vn, SCOMMERCE, lozi, vexere, KYNAYVN, OnPoint, LOGIVAN	growsari, MariaHealth, bliimo, advance, COCOTEL, paymongo, GoodWork, HOTELUCK, BEAUTY, Kalibrr, CloudEats, Edukasyon.ph, kumu	OPEN DYNAMICS, SOFTSPACE, tresgo, INVOLVE ASIA, fave, MONEYMATCH, easyParcel, supahands, Jirnexu, STOREHUB, NutritionTechnologies, HelloGold, SOCAR, Verofax, iprice, POS Aviation, dahmakan

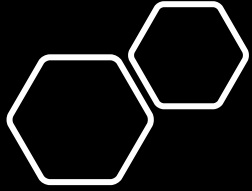
Source: The Future of Fintech in Southeast Asia, Dealroom, Finch Capital and MDI Ventures

Southeast Asia's tech ecosystems

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\$1B+ companies	Grab, sea, ninjavan, trax, Lazada, bitget	tokopedia, gojek, akulaku, traveloka, Bukalapak, OVO			
\$250-1B	2CP, patsnap, MDAQ, ezbuy, PropertyGuru, CIRCLES.LIFE, SHOPBACK, GreyOrange, carousell	sociolla, PAYFAZZ, ruang guru, modalku	mo, VNPAY	REVOLUTION PRECRAFTED, VOYAGER	iflix, axiata, CAR SOME
\$100-250M	Singlife, neuron, blueplanet, holmusk, KuCoin, trustingsocial, near, moglix, ONEBERRY, Astroscale, ECOJOBI, cxagroup, Terra, HORANGI, rotimatic, YOU TRIP, seconds, CONFLUX	Shipper, fore, BeliMobilGue.co.id, kargo, halodoc, Mbiz, zenius	Nkid, PROPZY, telio, pops	st Circle, tonik, cloudstaff	COMMON GROUND, HappyFresh, aerodyne, myTukar
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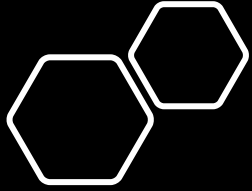
but start-up technology platforms are slowly catching up for sure.

Source: The Future of Fintech in Southeast Asia, Dealroom, Finch Capital and MDI Ventures



Understanding Digital Platform

- A building block, providing an essential function to a technological system—which acts as a foundation upon which other firms can develop complementary products, technologies, or services (Gawer, 2009)
 - Is **not new**, but digital technology make it widely spread and hypothetically unlimited
 - firms now **innovate by creating platforms** rather than single products, form an ecosystem that includes heterogeneous actors
 - allow firms to build not just platform of products but of **digital capabilities** throughout the organization to support its different functions, e.g., OEMs consolidate design & control of components that were formerly dispersed among suppliers



Understanding Digital Platform

- Implications:
 - balancing generativity vs. control, e.g., Apple iOS & jailbreak
 - shared more data and processes across organizational boundaries, e.g., 3D visualization between design firms, construction firms, transaction data between marketplace/online store and payment gateway/banks, etc.
 - innovation activities become increasingly horizontal, e.g., similar applications for different devices/purposes
- Too much heterogeneity and boundless innovation creates chaos

KOREA DAEWOO'S CHIEF IN EXILE **GERMANY** BEHIND DAIMLER'S HUGE LOSS **HIGH TECH** MOTOROLA'S BIG GAMBLE

BusinessWeek

INTERNATIONAL EDITION / FEBRUARY 5, 1996 A PUBLICATION OF THE MCGRAW-HILL COMPANIES



THE FALL OF AN AMERICAN ICON



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Exclusive: Apple's Craig Federighi, Tim Cook, and Jony Ive have never been more certain they're right.



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KOREA DAEWOO'S CHIEF IN EXILE GERMANY BEHIND DAIMLER'S HUGE LOSS HIGH TECH MOTOROLA'S BIG GAMBLE

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THE INDEPENDENT GUIDE TO IBM PERSONAL COMPUTERS



Volume 3 Number 3
\$2.95

February 21, 1984

Quiet and Colorful
Ink Jet Printers

IBM VS. Apple

Markets and Mistakes
Hardware and Software
Similarities and Differences
Past and Future

- Chameleon:**
PC of a Different Color
- Expert-Ease:**
Software Smarter Than You Are?
- New Word Processors Reviewed:**
Microsoft Word, Scriptor, PC-Write,
PIE:Writer
- Trace86:**
Tiptoe through Your Chips



Welcome, IBM. Seriously.

Welcome to the most exciting and important marketplace since the computer revolution began 35 years ago. And congratulations on your first personal computer. Putting real computer power in the hands of the individual is already improving the way people work, think, learn, communicate and spend their leisure hours. Computer literacy is fast becoming as fundamental a skill as reading or writing. When we invented the first personal computer system, we estimated that over 140,000,000 people worldwide could justify the purchase of one, if only they understood its benefits. Next year alone, we project that well over 1,000,000 will come to that understanding. Over the next decade, the growth of the personal computer will continue in logarithmic leaps. We look forward to responsible competition in the massive effort to distribute this American technology to the world. And we appreciate the magnitude of your commitment. Because what we are doing is increasing social capital by enhancing individual productivity. Welcome to the task.

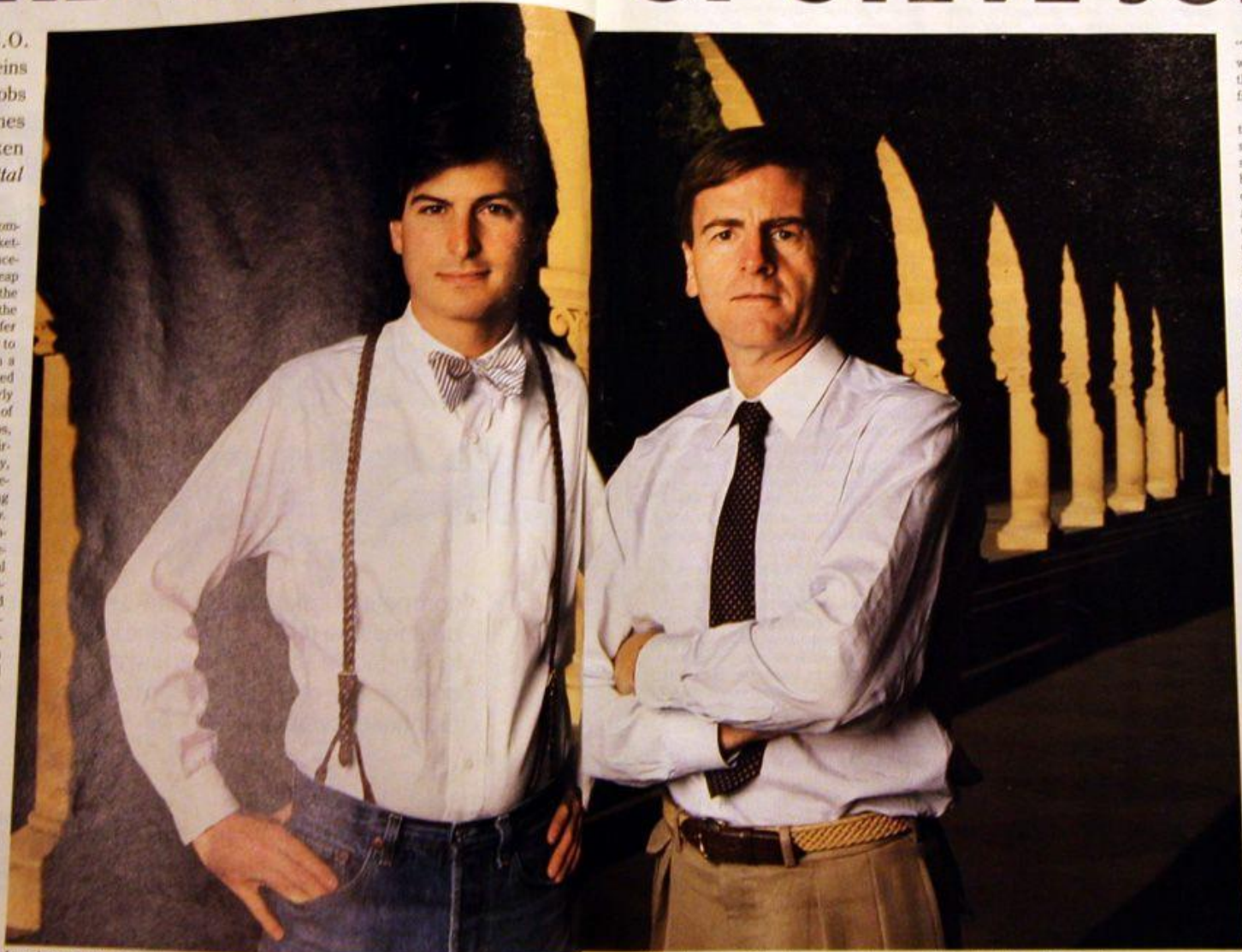


BEHIND THE FALL OF STEVE JOBS

The board pressed C.E.O. John Sculley to seize the reins at Apple. When he did, Jobs tried to oust him. Now comes the hard part for the shaken company. ■ by Bro Uttal

HIGH ON THE LIST of Apple Computer's talents is "event marketing"—turning corporate announcements into extravaganzas that reap lavish press coverage. Lately, though, the press has been trumpeting events that the Cupertino, California, company would prefer not to publicize at all. From the end of May to the middle of June, Apple reorganized in a rush, fired 20% of its work force, announced that it would record its first-ever quarterly loss, saw its stock hit a three-year low of \$14.25 a share, and stripped Steven P. Jobs, Apple's 30-year-old co-founder and chairman, of all operating authority. John Sculley, 46, president and chief executive, ruefully remarked that Apple's moves were attracting as much attention as an episode of *Dynasty*. Jobs's fate has aroused intense speculation. Not just another brash young entrepreneur, he is the Johnny Appleseed of personal computing, the leading broadcaster of "technology for the people." Until June, Jobs led the development and marketing of the Macintosh computer, an easy-to-use, technologically advanced machine on which Apple has staked its future. Many insiders are shocked by his removal; they fear Apple has lost the spirit and vision that made it into a business phenomenon. Says one: "They've cut the heart out of Apple and substituted an artificial one. We'll just have to see how long it pumps."

No players in the drama have explained publicly why Jobs came to grief. But several of them, promised anonymity, have revealed the essential details to *FORTUNE*. Though Jobs, a celebrated visionary, and Sculley, a driven corporate professional, are radically different personalities, they formed a strong bond. Sculley seems to retain an unusual affection for Jobs even today. "I decided to change my life and come to Apple," he says,



In calmer days last October, Apple Computer's chairman, Steve Jobs (left), strolled with Chief Executive

John Sculley through the cloistered quadrangle at California's Stanford University.

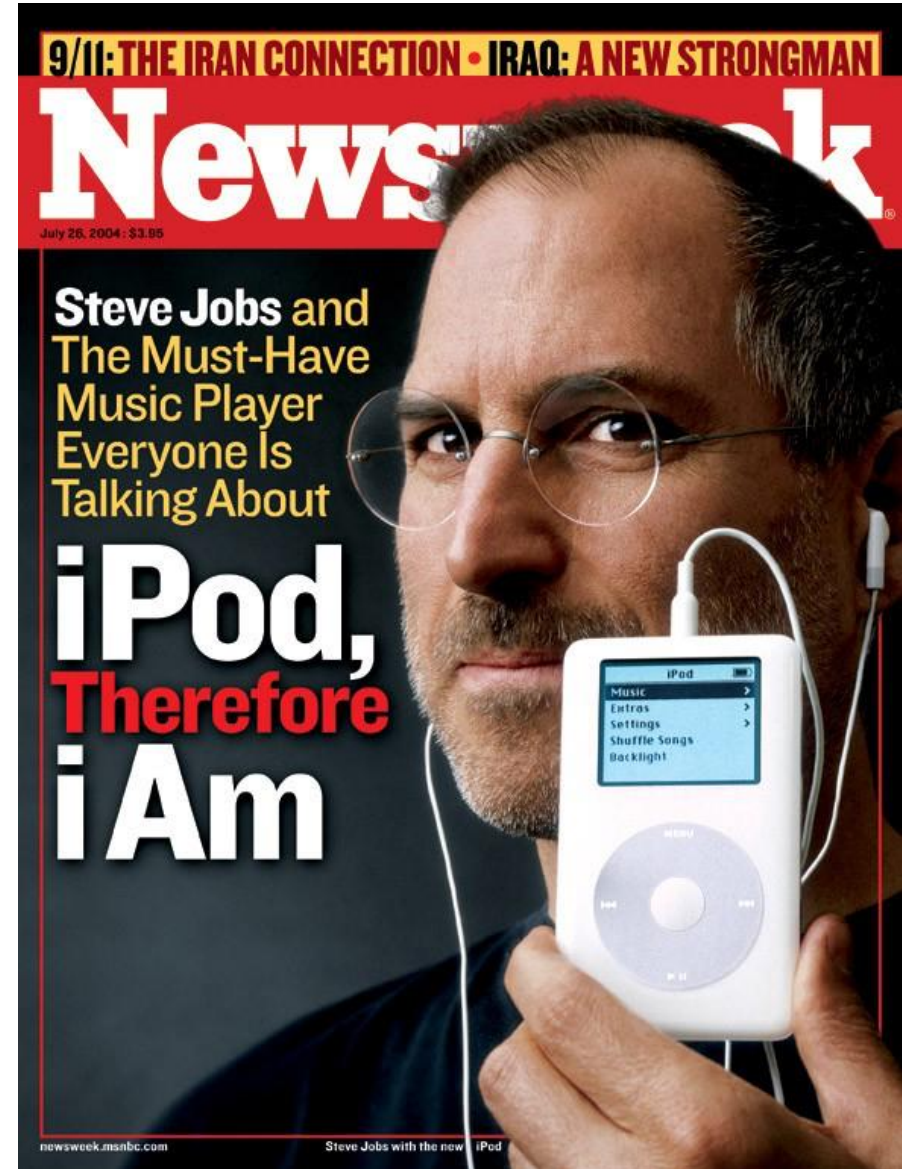
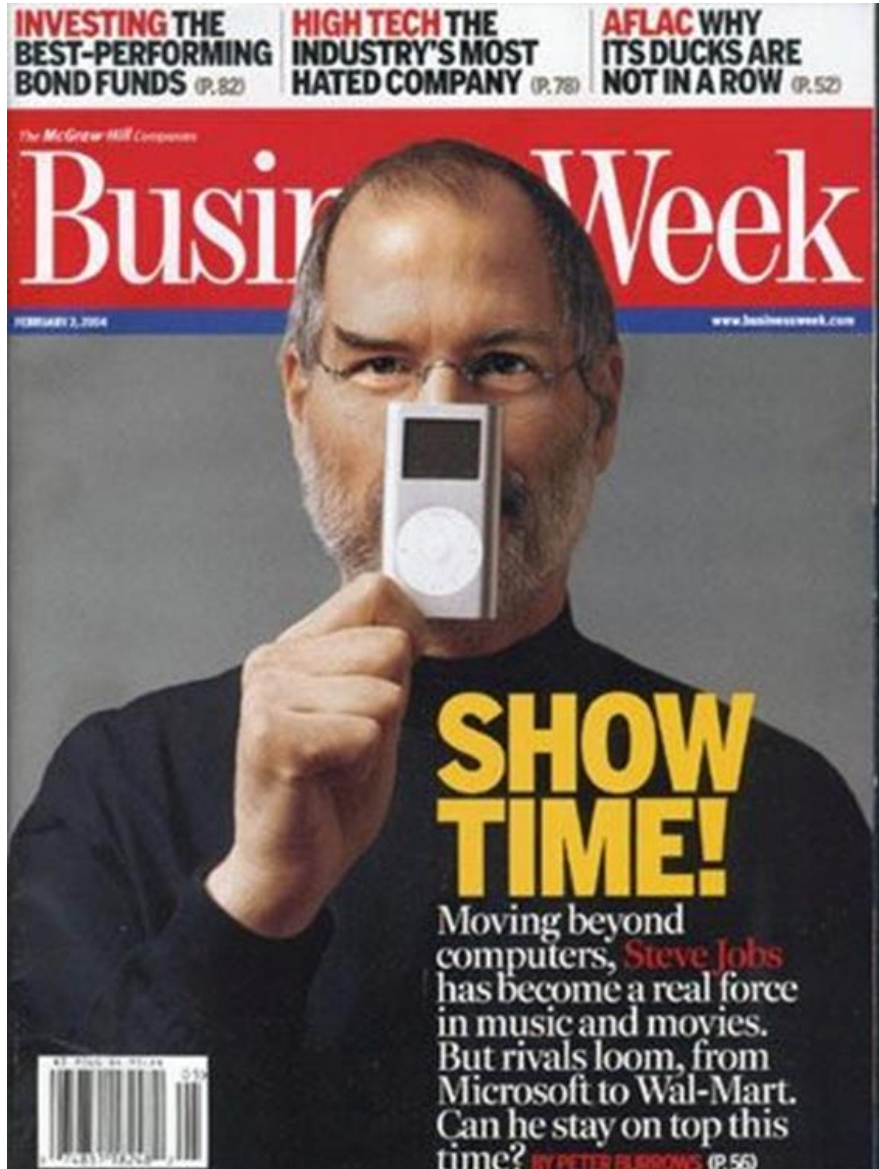
"because of my admiration for Steve and what he had done. Our reorganization was all the more painful because we are such close friends."

What emerges from Apple sources is a tale of adversity—a general slump in the personal computer business and disappointing sales at the Mac division—driving a wedge between Sculley and Jobs. Apple's board of directors, with strong-minded outsiders such as Arthur Rock, the San Francisco venture capitalist, played an important part in Jobs's downfall. On several occasions, beginning last December, the board goaded Sculley to assert his authority over the company. Even then, Sculley put off acting, partly from innate caution about radical organizational change and partly out of concern for Jobs's feelings. But Sculley was forced to reorganize, thus neutralizing Jobs, when he learned that the chairman was plotting to depose him.

Viewed dispassionately, Apple's reorganization is a further step in an overhaul Sculley has been working on slowly since May 1983, when Jobs wooed him away from the presidency of Pepsi-Cola USA, the beverage subsidiary of PepsiCo. From the beginning, Sculley says, his mission was to teach Apple marketing and improve its response to retailers and customers. That meant merging the company's nine highly decentralized divisions, most of which had broad responsibility for a product line, into an organization structured according to such business functions as engineering, manufacturing, and marketing. One marketing group, for example, would handle advertising and promotion for all Apple products.

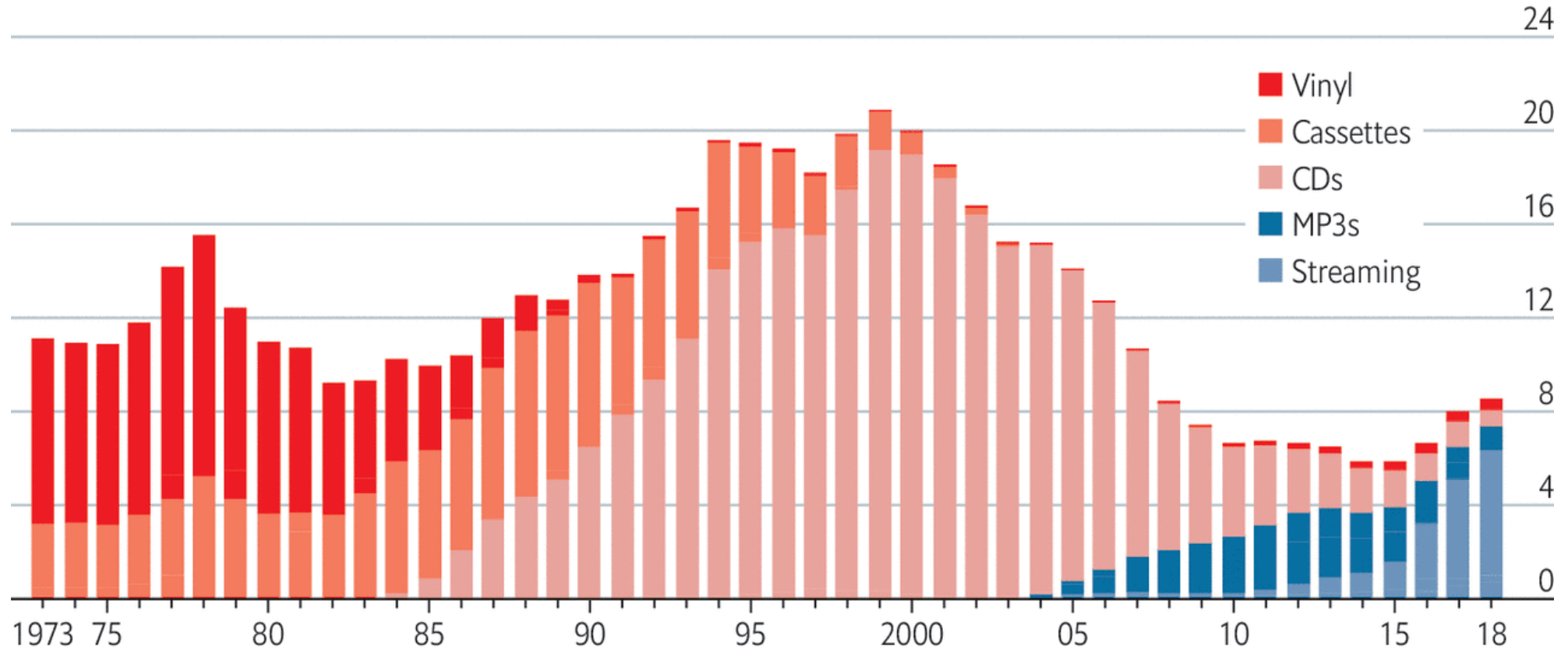
Transforming Apple was a tougher task than Sculley first imagined. Under Jobs the company had acquired a near-maniacal focus on products: the chairman electrified Apple's corps with talk of "insanely great" new computers, and he made stars of product designers. By the beginning of 1984, though, Sculley had managed to consolidate Apple's divisions into just three: a sales division for all products, a division for the Apple II family of products, and one with the forthcoming Macintosh as its centerpiece and Jobs as its general manager.

The organization appeared to work at first. Under Delbert W. Yocam, 41, a sober,



Track records

United States, recorded-music revenues by format, 2018 \$bn



Source: Recording Industry Association of America

The Economist

How Does It Happen?

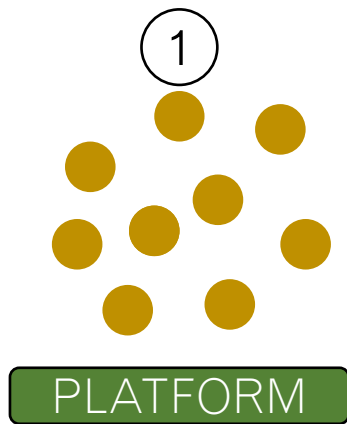
- No one understand the technology (yet)
- Companies used to be developed in such a **monolithic** way
- Each companies has its own “**ego**”, developed their own apps
- The media and entertainment industry has **wasted its resources** fighting MP3 and illegal peer-to-peer (P2P) sharing (Napster)
- Apple **step ahead** to establish its digital platform (iPod and iTunes), take care the payment, security management, privacy, etc.
- We now buy music and movies from iTunes, Google Play, Amazon — no longer buy from Sony, EMI, Universal, Warner Music, etc.
- We know Apple no longer as a computer manufacturer, instead as a **digital platform business**

What is Digital Platform?

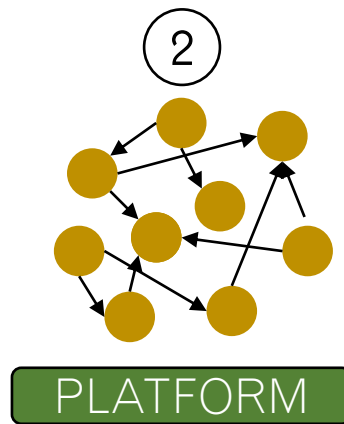
Conceptualization	Definitions	References
Technical Definition	“a building block that provides an essential function to a technological system and serves as a foundation upon which complementary products, technologies, or services can be developed”	(Spagnoletti et al. 2015; Yoo et al. 2012)
	“set of components used in common across a product family whose functionality can be extended by applications”	(Ceccagnoli et al. 2012)
	“The extensible codebase of a software-based system that provides core functionality shared by the modules that interoperate with it and the interfaces through which they interoperate”	(Tiwana et al. 2010; Ghazawneh & Henfridsson 2013)
	“a set of subsystems and interfaces that form a common structure for/from which derivative applications can be developed and distributed”	(Xu et al. 2010)
Non-technical Definition	“a commercial network of suppliers, producers, intermediaries, customers and producers of complementary products and services termed “complementors” that are held together through formal contracting and/or mutual dependency”	(Tan et al. 2015)
	“Two-sided networksthat facilitate interactions between distinct but interdependent groups of users, such as buyers and suppliers”	(Koh & Fichman 2014)
	“multisided platformexists wherever a company brings together two or more distinct groups of customers (sides) that need each other in some way, and where the company builds an infrastructure (platform) that creates value by reducing distribution, transaction, and search costs incurred when these groups interact with one another”	(Pagani 2013)
	“...value is created by facilitating the interaction between two or more mutually interdependent groups of customers”	(Ye et al. 2012)

Source: Asadullah et al. (2018)

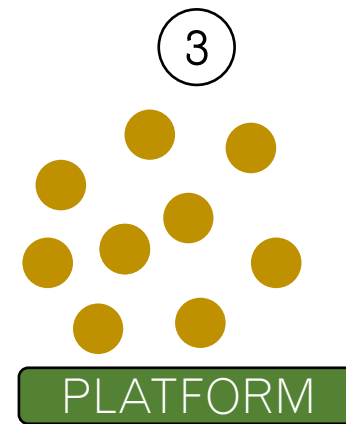
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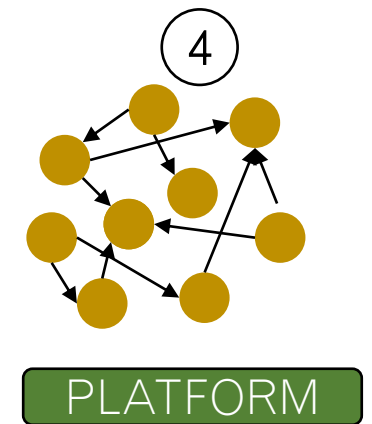
Single-sided, no network effect, e.g. Netflix



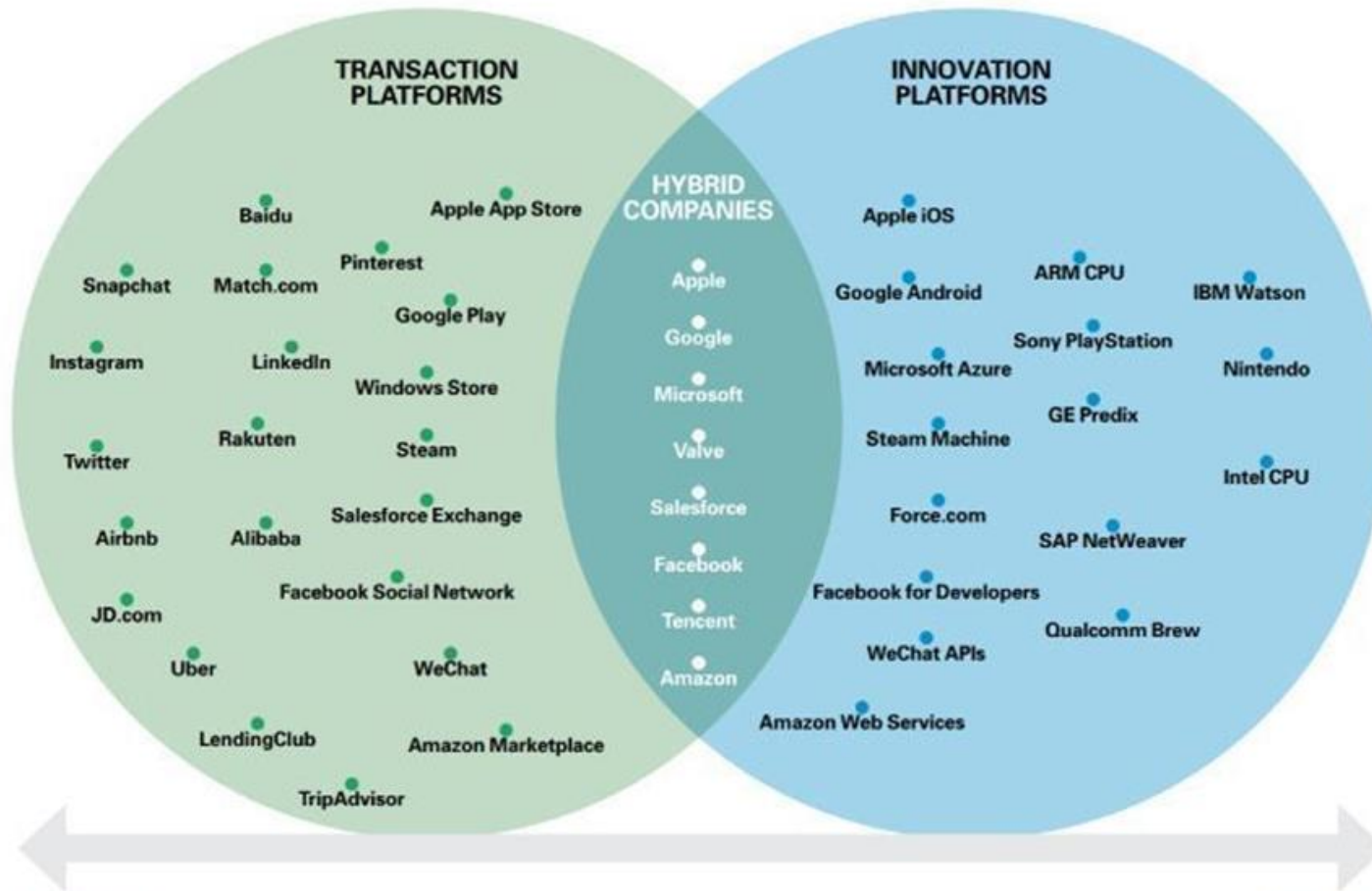
Single-sided, direct network effect, e.g. WhatsApp



Two, or multi-sided, indirect network effect, e.g. Amazon, YouTube



Two, or multi-sided, direct and indirect network effect, e.g. Facebook



Basic Platform Types

Transactions

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

Innovations

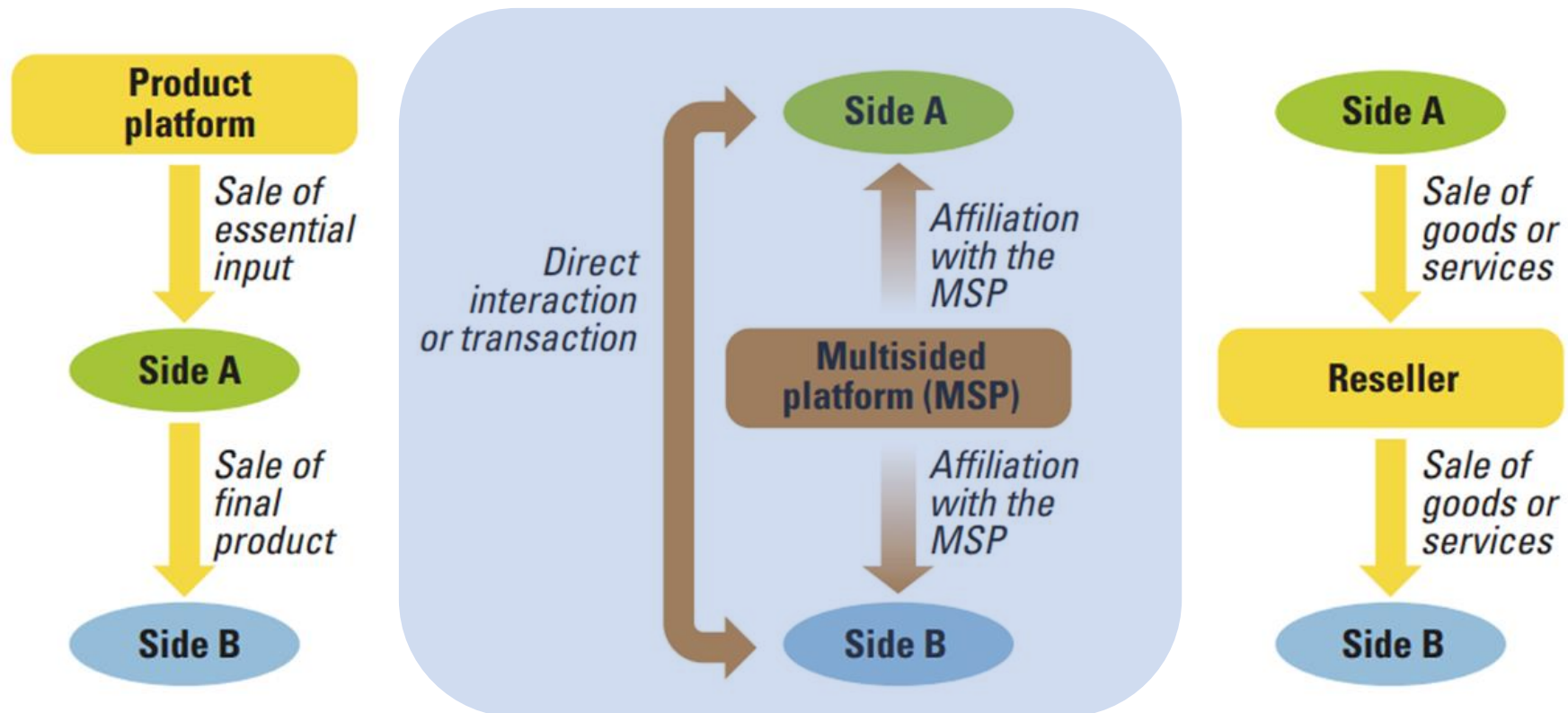
The platform serves as a technological foundation upon which other firms develop complementary innovations.

SOURCE: THE BUSINESS OF PLATFORMS: STRATEGY IN THE AGE OF DIGITAL COMPETITION, INNOVATION, AND POWER (HARPER BUSINESS, 2019)

Source: Cusumano et al. (2020)

HOW MULTISIDED PLATFORMS DIFFER FROM PRODUCT PLATFORMS AND RESELLERS

There are two key characteristics of a multisided platform: (1) each group of participants (“side”) are customers of the MSP in some meaningful way, and (2) the MSP enables a direct interaction between the sides. Product platforms violate the first requirement: The ultimate customer is not a customer of the platform provider. Resellers violate the second requirement: There is no direct interaction between the sides.





Categorizing Digital Platform

Category	Type
Key Activities	Data generation
	Data acquisition
	Processing
	Aggregation
	Analytics
	Visualization
	Distribution
Data Sources	Internal
	External
Revenue Model	Asset sale
	Lending, renting, leasing
	Usage fee
	Subscription fee
	Advertising
Offering	Data
	Information/ knowledge
	Non-data product/service
Target customer	B2B
	B2C
	C2C

Source: Nooren et al. (2018)

Digital Platform Taxonomies

	Transaction-Sectoral (business platform)	Innovation-Infrastructure (technological platform)	Integration-Institutional (polity platform)
Conceptualization	Platform as multi-sided market	Platform as technological innovation/architecture	Platform as polity
Purpose	Matches users or user groups, the value for a user increases with the number of users in a user group	An extensible codebase as a core that enables the adding of third-party modules that complement the core	Ensuring and facilitating reliability of the platform, promoting both competition and participation
Key target groups	Participants to a transaction	Application developers	Ecosystems
Key governance issues	Attracting users from the relevant groups (direct/indirect)	Relationship between developers and platform owners	Reliability of platform, economies of participation
Theories	Multi-sided markets, indirect and direct network effects	Boundary resources, platform openness, platform ecosystem	Platform governance
Concerns	Competition: Income/job opportunities, filling institutional voids, removal of market frictions	Innovation: Creation of app economies, development of tools (apps) to solve local challenges	Competition and participation: Inclusion, utopian idea of regulating platform
Examples	Go-Jek, Grab, Tokopedia, WhatsApp, Skype, AirBnB, Uber, MPesa	Apple iOS, Linux, Android, SAP	Blockchain, cryptocurrencies

Digital Platform Types

	Definitions	Transactions	Communications	Network Effects
Reseller/Distributor	Provide content or products to end users, e.g. Netflix	Yes	No	Possible
Marketplace	Facilitate transactions between user groups, e.g. eBay	Yes	No	Indirect
Social Network	Enable social interaction and generativity, e.g. WhatsApp, Twitter, Facebook	No	Yes	Direct
Platform of Platforms	Platforms or ecosystems on which other platforms work, e.g. Apple iOS, Google Android, Facebook	Possible	No	Multiple

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Business platform

Technology platform

Strategic Options for Platform-Leader Wannabes

Two principal strategies for becoming a platform leader are (1) coring (creating a new platform) and (2) tipping a market toward your company's platform. To become a platform leader, companies need to address both the business and technology aspects of platform strategy.

STRATEGIC OPTION	TECHNOLOGY ACTIONS TO CONSIDER	BUSINESS ACTIONS TO CONSIDER
<p>Coring How to create a new platform where none existed before</p>	<ul style="list-style-type: none"> • Solve an essential “system” problem • Facilitate external companies' provision of add-ons • Keep intellectual property closed on the innards of your technology • Maintain strong interdependencies between platform and complements 	<ul style="list-style-type: none"> • Solve an essential business problem for many industry players • Create and preserve complementors' incentives to contribute and innovate • Protect your main source of revenue and profit • Maintain high switching costs to competing platforms
<p>Tipping How to win platform wars by building market momentum</p>	<ul style="list-style-type: none"> • Try to develop unique, compelling features that are hard to imitate and that attract users • Tip across markets: absorb and bundle technical features from an adjacent market 	<ul style="list-style-type: none"> • Provide more incentives for complementors than your competitors do • Rally competitors to form a coalition • Consider pricing or subsidy mechanisms that attract users to the platform

Source: Gawer (2009), Gawer and Cusumano (2008)

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Factors Contributing to the Emergence of Digital Platform



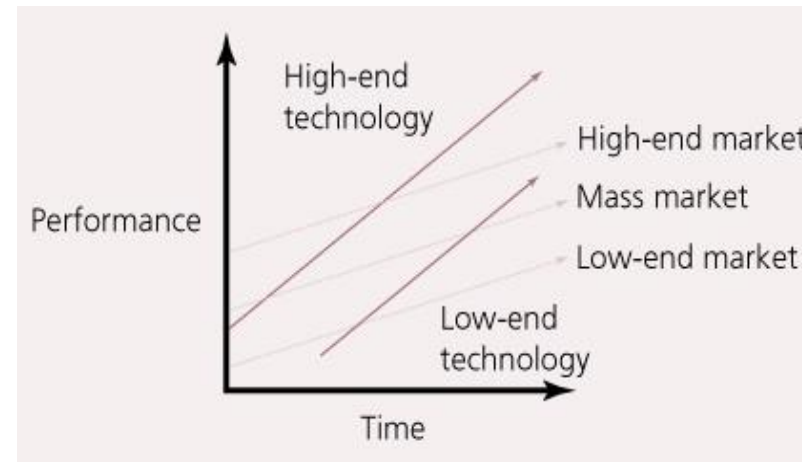
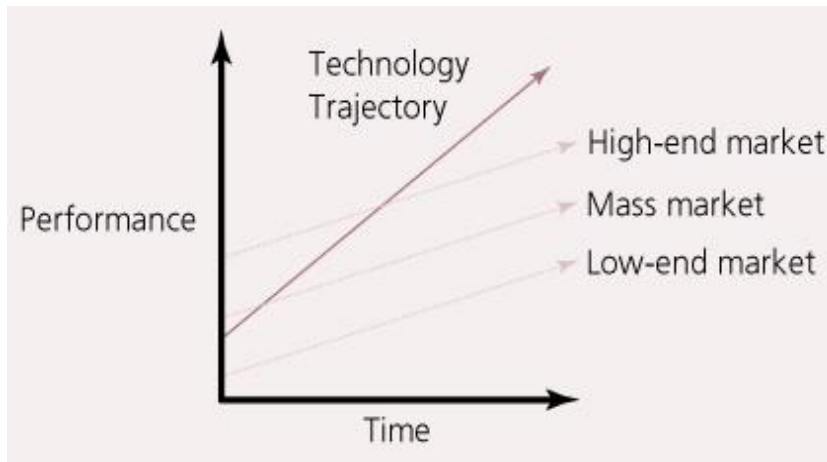
DISRUPTIVE
INNOVATION



NETWORK
EXTERNALITIES

Disruptive Innovation

- Technologies often improve **faster** than customer requirements demand
- This enables **low-end** technologies to eventually meet the needs of the mass market.





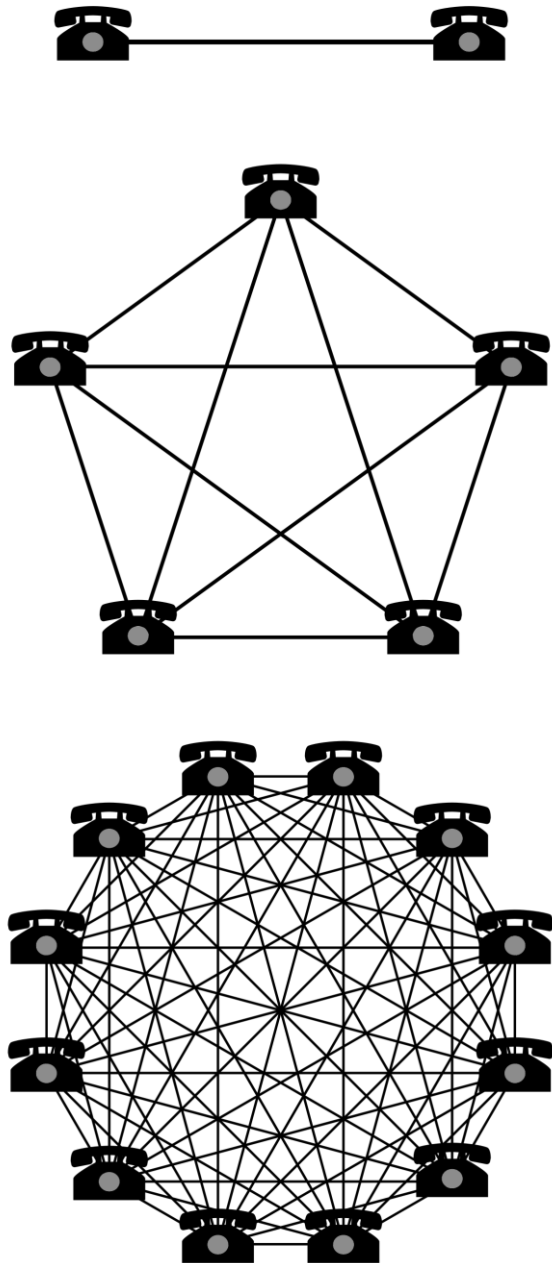
How many of you are using the computer up to its full potential?



Image credit: Unsplash

Disruptive Innovation

- From 1980 to 2011, Microsoft was the dominant personal computer operating system. However, operating systems for smartphones and tablets were improving to the point where they could replace many personal computer functions.
- In 2011, Apple's iPhone operating system and Google's Android collectively controlled about 60% of the market for smartphone purchases. Microsoft's Windows Phone held a share of only 11%.
- As tablets based on these systems became fully functional computers, would Microsoft's dominance evaporate?



Network Externalities

- Network externalities are the effects a product or service has on a user while others are using the same or compatible products or services.
- **Positive** network externalities exist if the benefits (or, more technically, marginal utility) are an increasing function of the number of other users.
- **Negative** network externalities can also occur, where more users make a product less valuable, commonly referred to as "congestion," as in traffic congestion or network congestion.

Network Externalities

- Technology adoption will lead to **network externalities** (David, 1985)
- Platforms leverage **network externalities** or **network effects** (Katz & Shapiro, 1986, 1994)
- Common in telecommunication networks (e.g., telephone, fax machines, etc.)
- The value of the telephone is subject to how many people have telephones — the more, the merrier
- Demand economies of scale give advantage to larger platforms that become gradually better in curating content and giving values to the customer — lead to **natural monopoly**

Digital Platform Challenges

- The **number of sides** to bring on board;
 - More sides lead to potentially larger cross-side network effects, larger scale and potentially diversified sources of revenues. But it may not be economically viable for one (or several) sides to exist independently. Even if attracting many sides is possible, doing so carries the risk of creating too much complexity and conflicts of interest.
- **Platform design**;
 - MSPs can encompass a tremendous variety of functionalities and features that reduce search costs, transaction costs, or product development costs. Platform must be ready to make sacrifices with direct short-term revenue impact in order to not alienate the participants whose utility is decreased by the design features in question.
- **Pricing structures**;
 - Platforms potentially have multiple revenues and profit sources. In reality, they have to offer their services for free or at subsidized prices to at least one side of the platform and derive their profits on the other side. Thus, how should MSPs choose their pricing structures? How much should they charge each side relative to the others?
- **Governance rules**.
 - Rules regulating *access* to the MSP: Who is allowed to join?
 - Rules regulating *interactions* on the MSP: What are the various sides allowed to do?



Banking vs. Platform

- Innovation is **not the strong suit of banking** (even though it spends lot of money on IT)
- Incumbent banks, challenger banks, fintechs, various financial services companies emerge rapidly
- Big mind shift: **the greatest asset is no longer money, but data**

Open Banking

- Part of a sweeping piece of European legislation known as the second Payment Services Directive, or PSD2
- Comes into force on January 13, 2018 — updates will follow over the next two years
- Being set up by Open Banking Limited, a non-profit created specially for the task — enforcement rests with the Competition & Markets Authority, protection for consumers will be done by the banks (for payments) or the Information Commissioner's Office (for data)

OVERVIEW

With experience in building Fintech, Insurtech and Regtech communities, we at FIRtech Hub are setting up the Open Banking Working Group as a centre of gravity to unify the Open Banking community in Southeast Asia.

Regional working group (as a starting point): Strategic discussions to create a common framework for implementing and scaling cross-border Open Banking solutions

Local working groups
Strategic discussions to drive implementation and policy/regulatory changes at the country level

Sub-committees - established as required

Supported by events, workshops and educational initiatives.

Readiness for Open Banking in Southeast Asia



Singapore



8.1

Malaysia



6.2

Thailand



6.1

Philippines



4.7

Indonesia



4.0

Vietnam

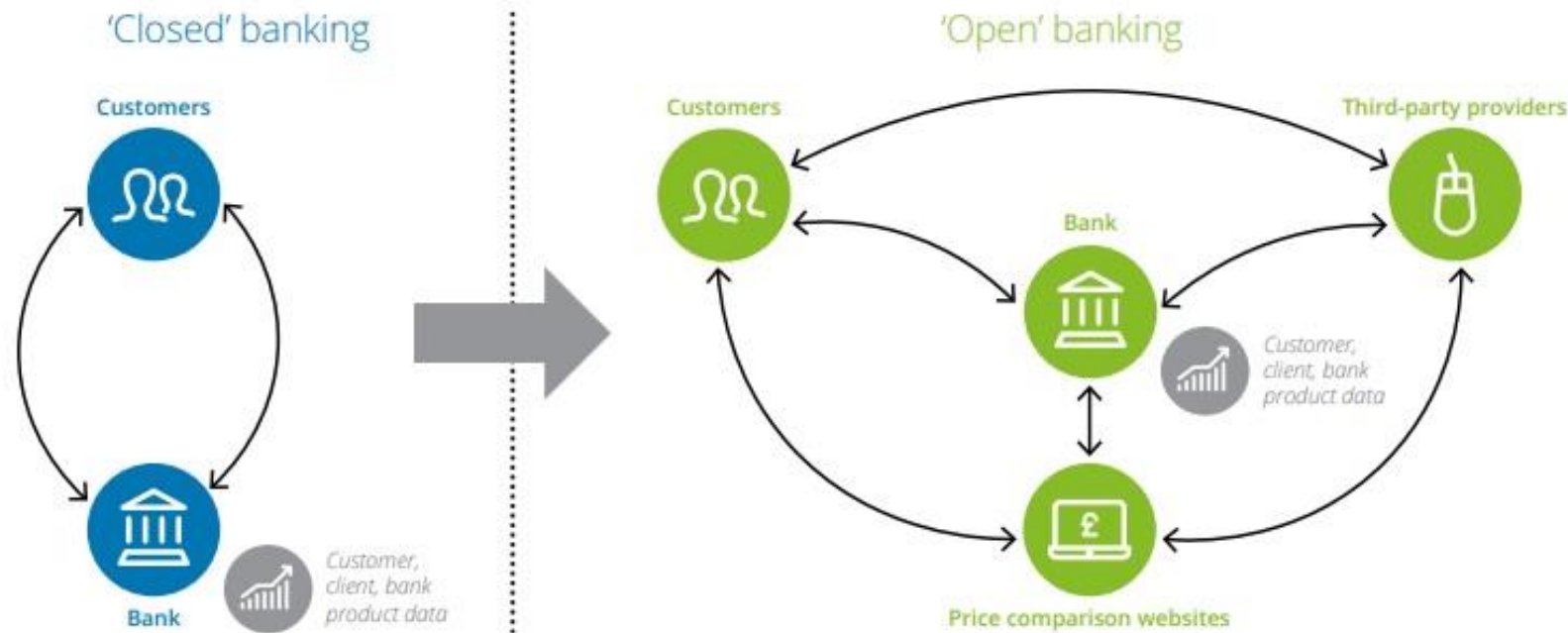


2.3

Scale: 0 - 9 (Most banks observed to have low/high adoption of APIs, low/high bank third-party partnership, and are in the early/advanced stage of data-based transformation and innovation)

Sources: IDC, Finastra's Open Banking Readiness Index

Open Banking



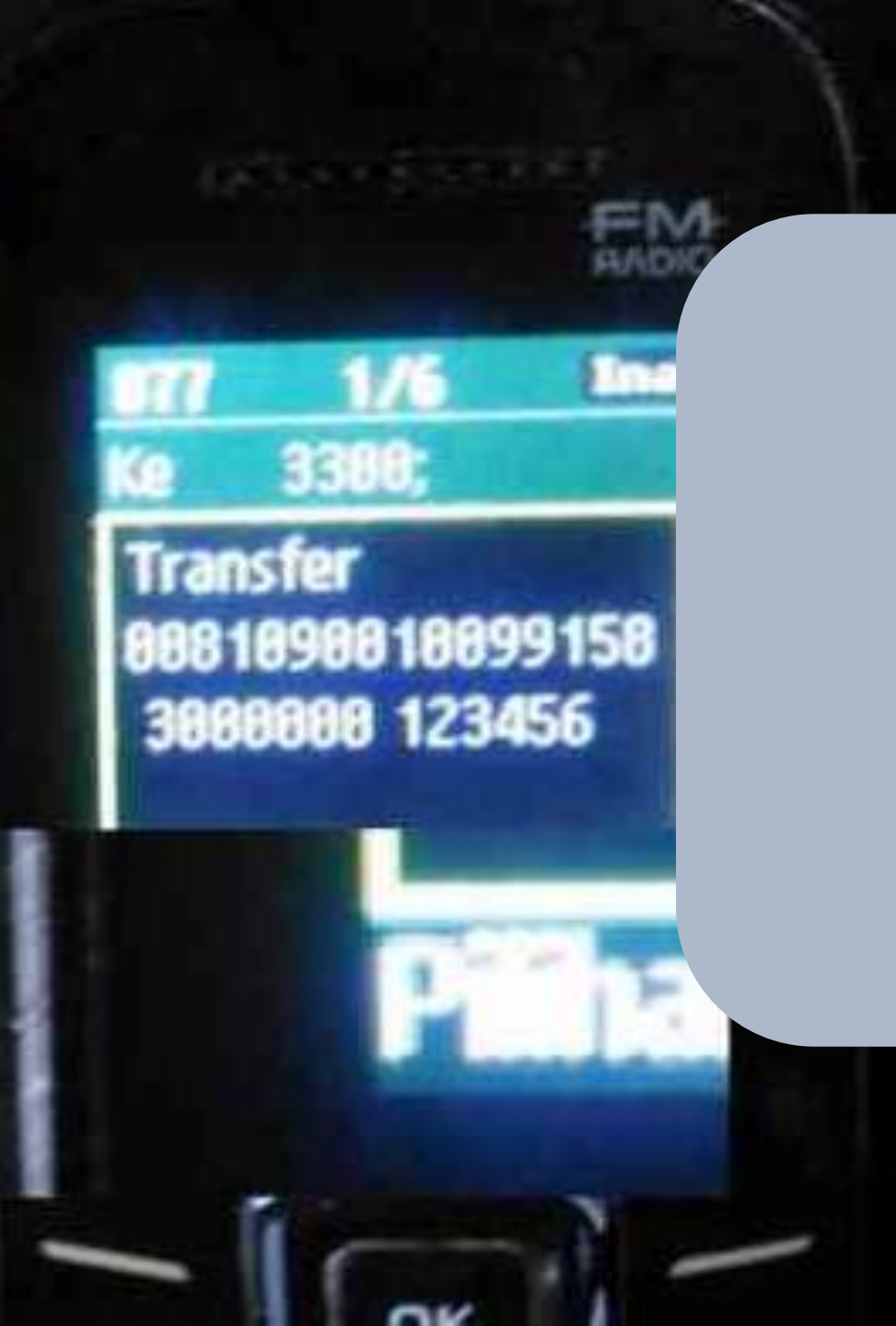
Source: Deloitte analysis

The system should make it easier for customers to view their finances, take out loans and other financial products, and pay for things online. In the long term it could introduce an **entirely new relationship to banking** — but that future is probably some way off.



Why Open Banking

- Early adoption is important for leading financial brands, both to retain current market share, and to be viewed as relevant by tomorrow's young, digitally savvy customers
- Main benefits include:
 - Drive deeper customer engagement
 - Create new revenue models
 - Tap a sustainable service model for underserved markets
 - Develop innovative digital services
 - Increase customer personalization
 - Reduce costs of customer acquisition
- Like the banks, insurance companies, payment providers and FIR (fintech/Insurtech/regtech) companies will also be major beneficiaries of open banking



Who owns the customer?

Who takes care the security?



Banks with plastic card NFC,
Telcos with SMS payment

Banks, insurance companies, payment providers and
Fintech/Insurtech/regtech) companies will also be **major beneficiaries** of open banking

Possible Trends

- Money management

- If you've got accounts with two different banks, then you have to look at them separately, because the banks' systems are resolutely incompatible. Open Banking will let you see them **at the same time**, which should make it easier to manage money.

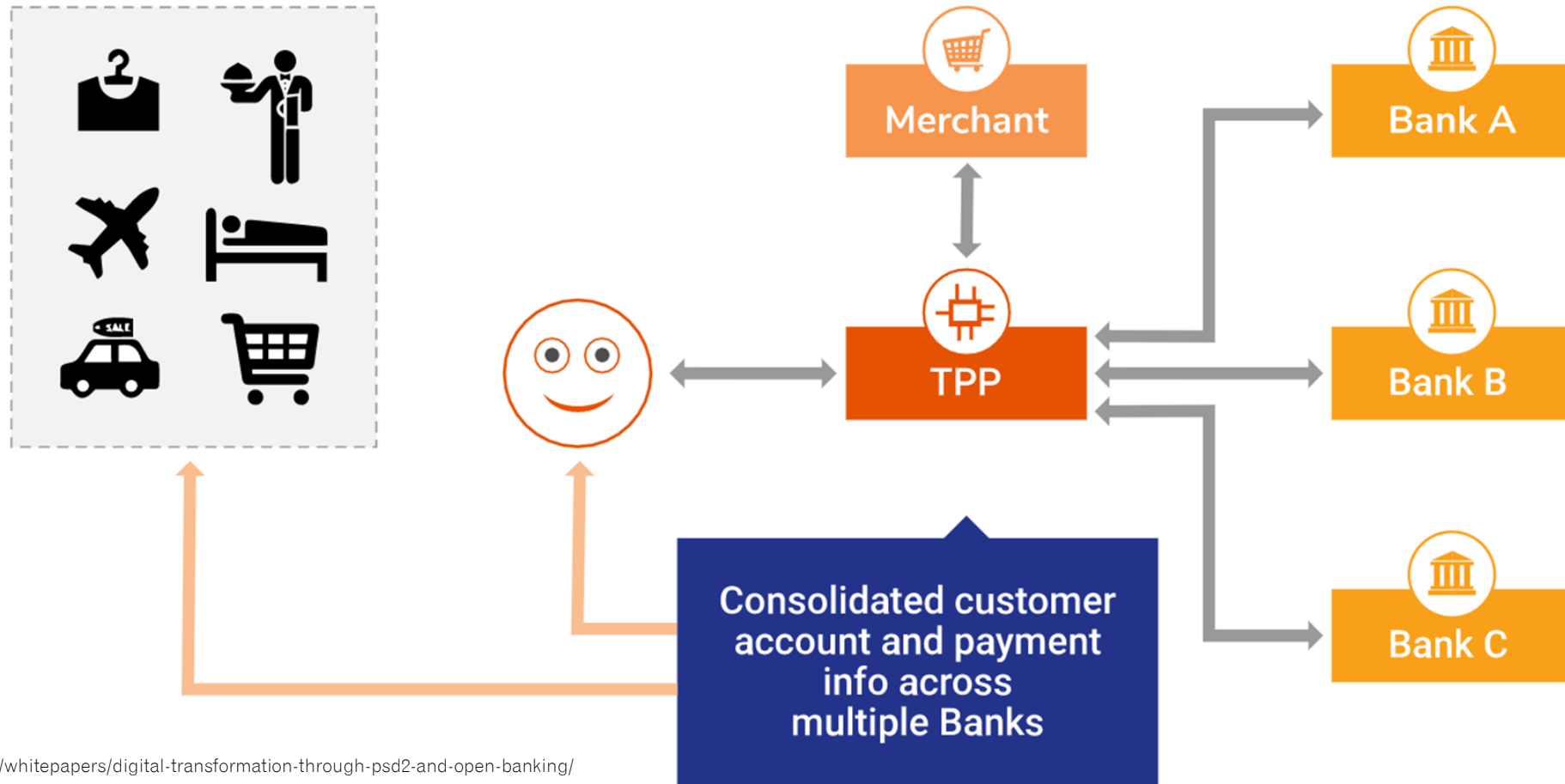
- Lending

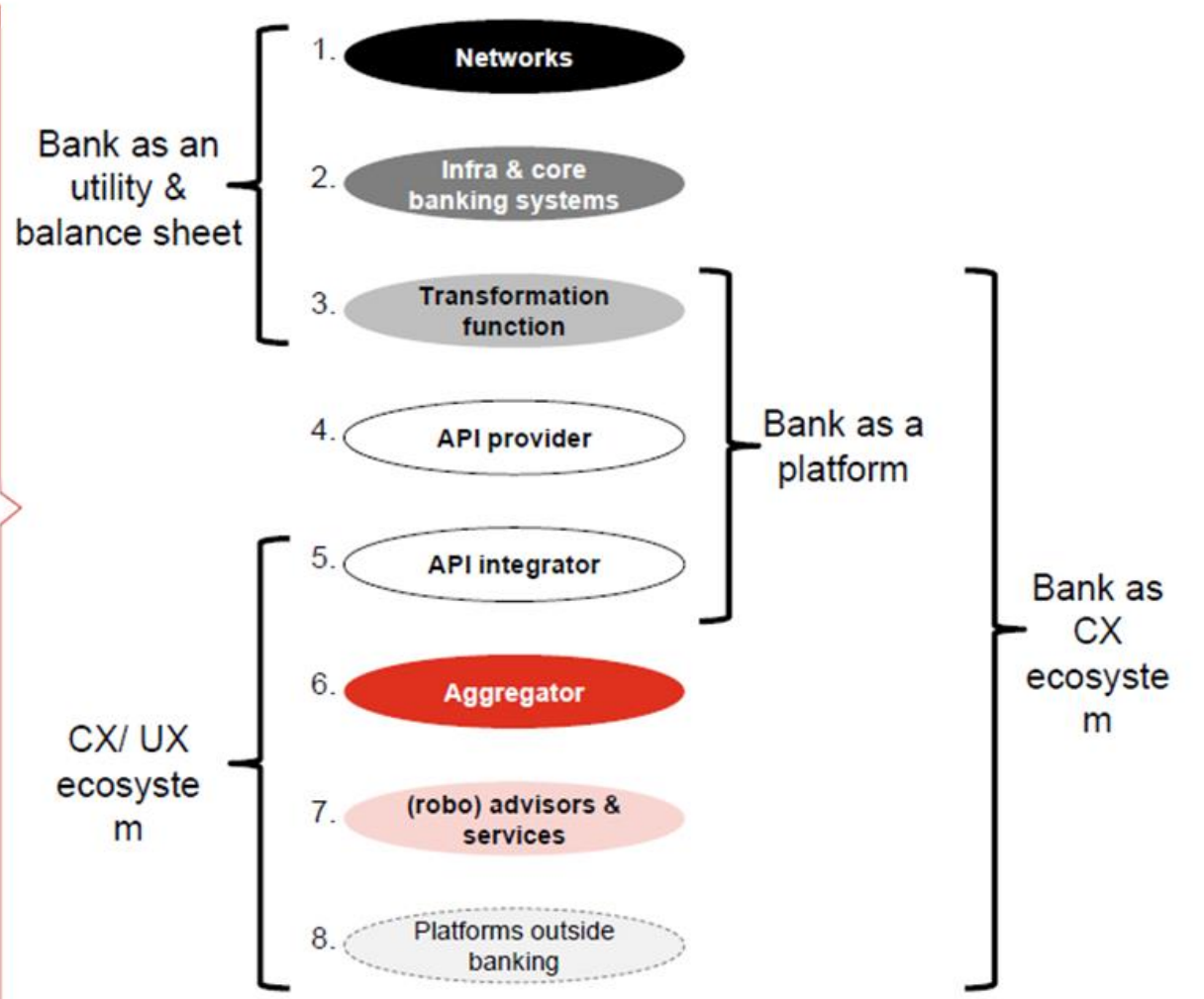
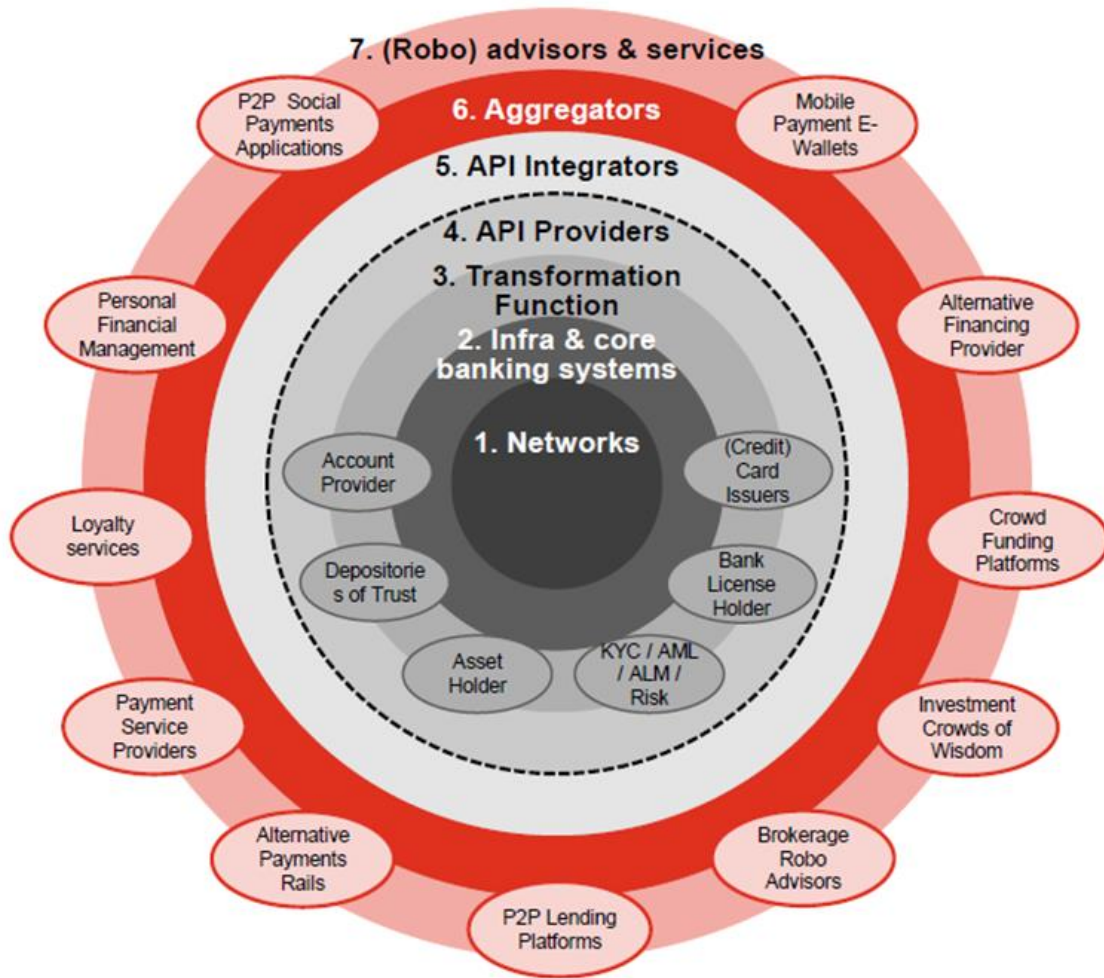
- When you take out a loan, you have to show details of your finances to prove you're good for it. Open Banking will let you provide that information online. There are services that already do this — this method will be **more secure and more accurate**. This kind of data transfer should help small businesses (SMEs).

- Payments

- The current payment system is very complicated. When you buy on Amazon, the retailer contacts an “acquirer”, such as WorldPay or Global Payments, which gets in touch with Visa or MasterCard to take the payment from you. Open Banking makes it possible to **pay directly** from a bank account. The bank authenticates the purchase without involving other organisations.

Possible Trends



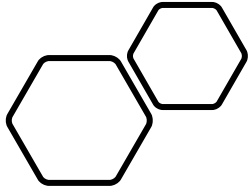


Fundamental Changes

- Previously, all data belongs to incumbent banks, someone else analyze the data, and customize services on their consent
- With open banking, data will be accessible by the **third-party platform**
 - If banks give their consent, it will not only creates more innovation but also more competition
- **Head-on war** between incumbent banks and financial technology firms **intensifying**

Fundamental Changes

- When incumbent banks start to do platforms, they realized that they have built their IT structure pillars
 - Creating silos over different products, e.g., credit card IT system is separate from mortgage in order not to disrupt the whole system
 - Those silos of products and IT pillars do not talk to one another, freaking the customers out
- Incumbent banks are **struggling to build platforms**
 - If they still want to do it instead, they need to change their culture, attitudes, etc. — not just buy the technology



Chicken vs. Egg Problem

- If the platform is empty, then customers will not come.
- If platforms do not get the customers, they do not have the data.
- Another problem with resources (money), IT (technology), and licensing — particularly in highly regulated sectors.



Key Takeaways

- We find a strong evidence of movements from **closed vertically integrated business conglomerates** to the emergence of **multisided platforms and business ecosystems** in Asia
- Consequently, we have to understand the digital platform **typology, taxonomy, and strategic choices** as well.
- We need to appreciate the power of **disruptive innovation** and **network externalities** in encouraging the emergence of digital platform
- We should be aware of digital platform **challenges**
- Competition and power struggles potentially creates **chicken-egg problem**



Question to ponder

Do you think that we **should** develop a **digital platform** in order to survive in the digital economy?

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Thank You

Thank you for your attention. See you anytime soon.