



Guanghua School of Management
Peking University



4 Lessons from the Frontiers of Digital China

Jeffrey Towson
Professor of Investment
2019

My Background

- My writing and speaking are on **digital China and Asia's latest tech trends**.
 - LinkedIn Top Voice for Finance and China for 2016-2018.
 - Named a Global Influencer by Alibaba and Huawei.
 - +3.1M followers.
- Do healthcare PE deals and advisory in the US and Asia.
- Teach at Peking University, CEIBS and others.
- Former advisor to Saudi Prince Alwaleed, medical doctor and Burger King employee.
- Based in Bangkok and Las Vegas.

Prince Alwaleed – the “Arabian Warren Buffett”

- The world’s 4th richest person (2004)
- The largest owner of Citigroup
- The largest investor in the Middle East
- The largest foreign investor in the USA
- The 2nd largest owner of media in the world
- Owner of 200+ hotels
- Grew \$200k into \$28 billion over 20 years – with 3 biz staff
- China assets include Bank of China, JD, lots of hotels, and portfolio companies







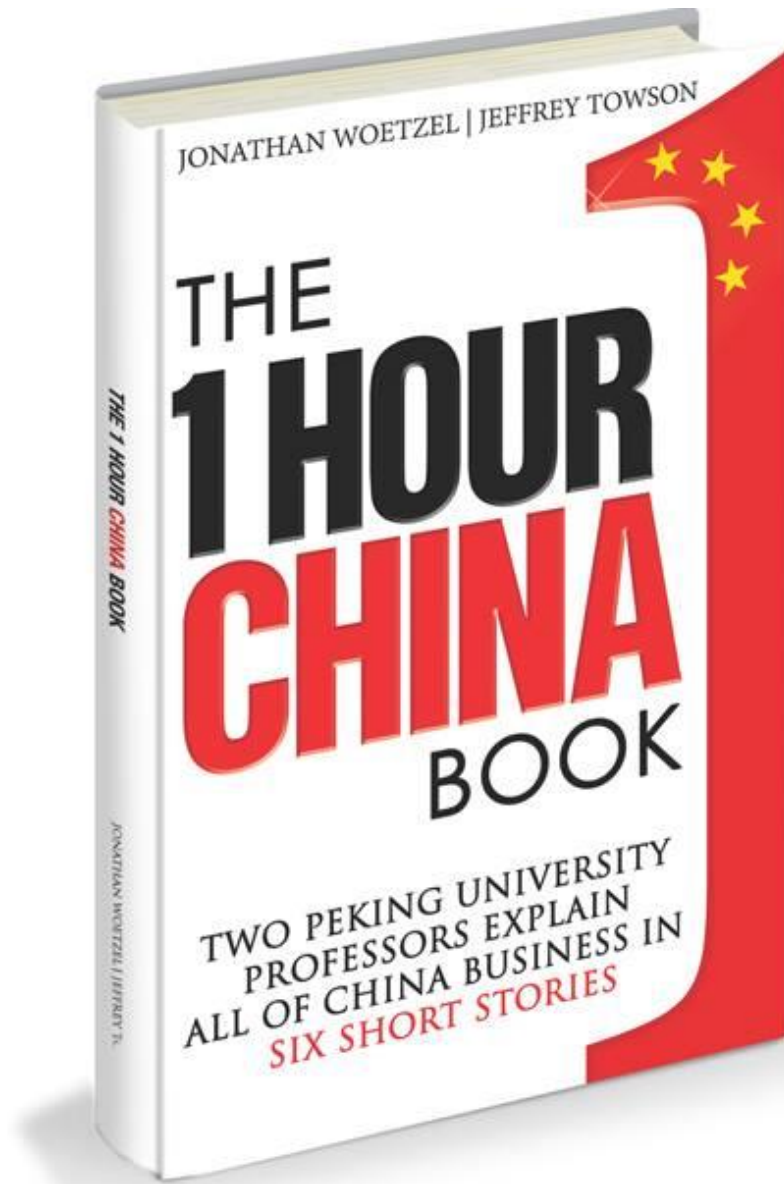




Jeff's Asia Tech Class

- Executive education on the tech leaders of China and Asian digital combat.
 - A weekly lecture you can listen to on your smartphone.
 - A weekly deep-dive article.
 - 2-3 daily updates every week on current events.
- Requires only 90 minutes per week online or via podcast.
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- **China's +1B Digital-First, Consumer Network Is Creating Digital-First Businesses and Infrastructure.**
- New Retail Is Online-Merge-Offline: A Radical Transformation of the Consumer Experience and Intelligent Logistics.
- Innovation in Digital Is Combining With Innovation In Smart, Connected Hardware.
- The Chinese State Is "All In" On Digital. Especially in Smart Cities.

-- And Some Fun Stuff from 2019 --

10 Years Ago, China Accounted for Less Than 1% of the Value of Worldwide Transactions

11



Today, China's e-commerce market is larger than those of France, Germany, Japan, the United Kingdom, and the United States combined.

Online retail sales are expected to reach \$1.8 trillion by 2022, representing 25% of China's total retail sales volume.



It's All About China's +1B Digital-First, Consumers

















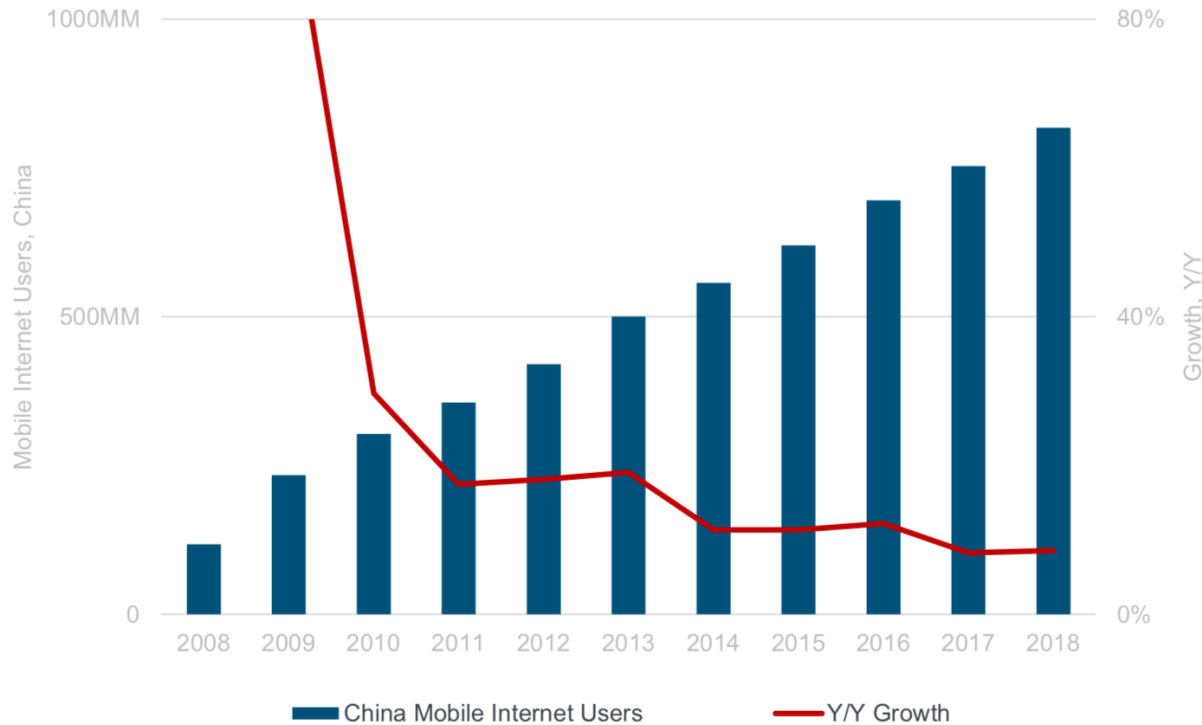






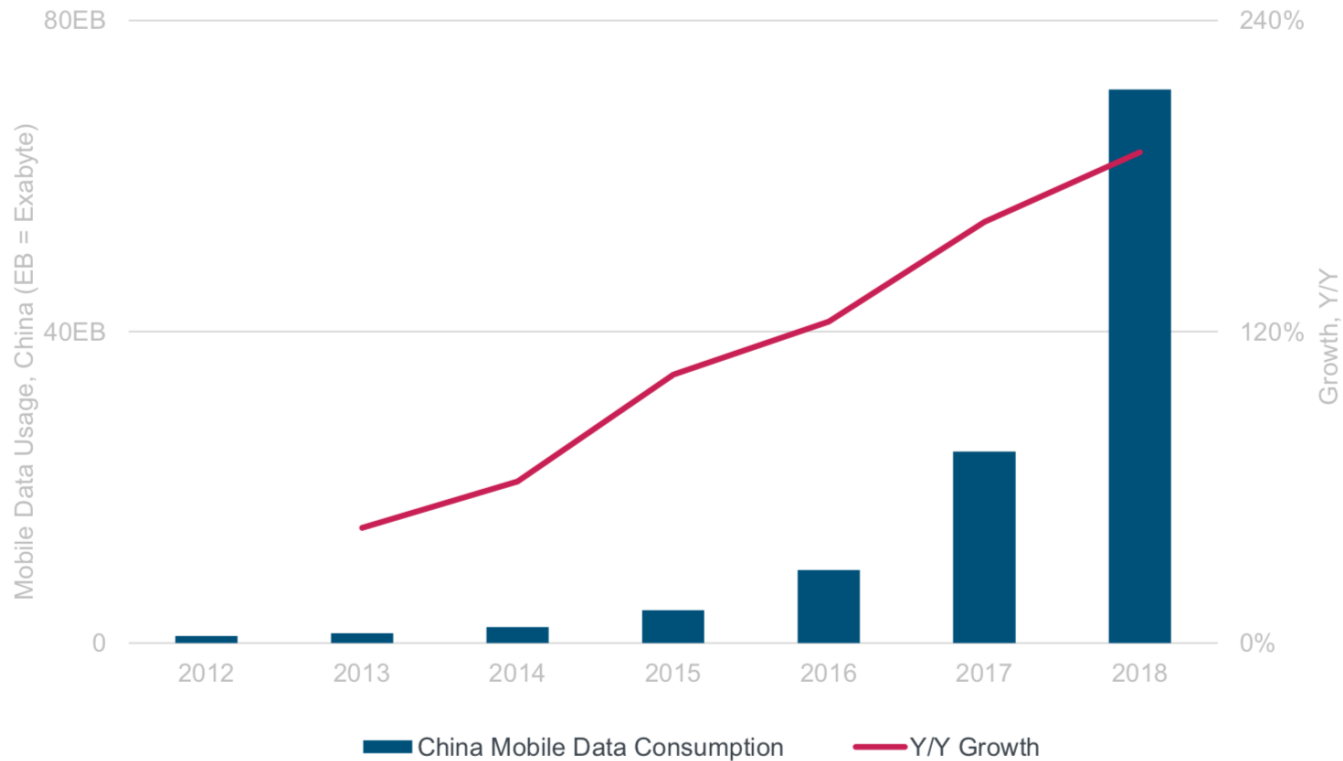
It Started With Smartphones...

China Mobile Internet Users vs. Y/Y Growth



...And Cheap Data Plans...

China Cellular Internet Data Usage & Growth Y/Y



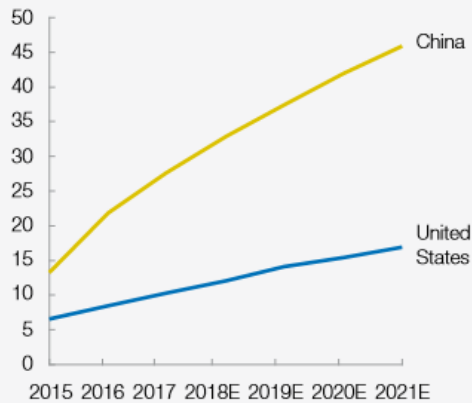
...Then Mobile Payments

Exhibit 8

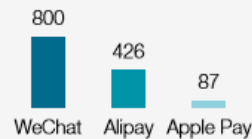
China leads in mobile payment penetration, particularly when compared with the United States.

Chinese mobile payments were more than 16 times greater than those in the United States in 2017

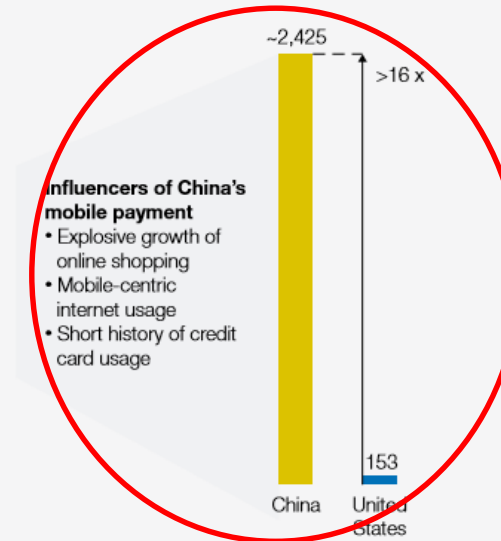
Mobile penetration for overall travel bookings,¹ 2015–21E,



Active payment app users, Q4 2017, million



Transaction value of 3rd party mobile payment, 2017
\$ billion

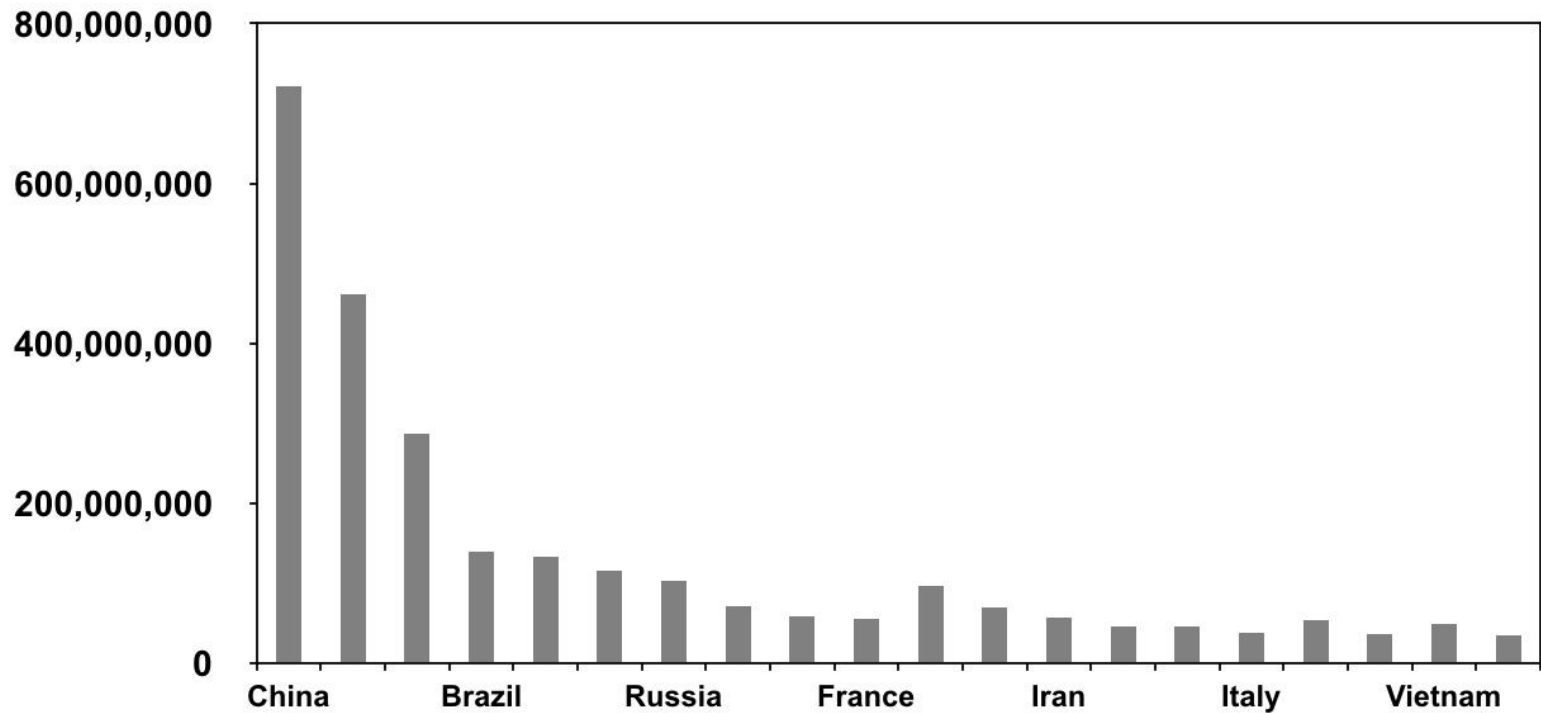


¹ Leisure and unmanaged business travel players only, excluding corporate travel players that have travel policies dictating the channels, types of travel, suppliers or fares/rates used. Corporate online booking systems, such as SAP Concur and Sabre's GetThere network, are also excluded; 2018 market size in \$ billion.

Source: Forrester; IResearch; Coney Dongre, "U.S. online travel overview seventeenth edition market sheet," PhocusWright, January 2018, phocuswright.com

...Resulting In a Critical Mass of +1B Digital-First Consumers

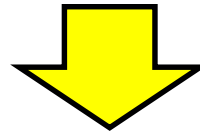
Internet users by country - as of 06/30/2016*



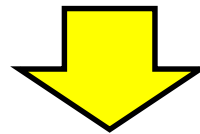
* - Europe numbers by Nov 2015
 Source: Internet World Stats,

Digital China Is a +1B Digital-First, Consumer Network

- Consumers, not enterprises, are the engine of digital China.
- The digital consumer, via their smartphone, is always on. And enthusiastic.



- Chinese consumers **operate as a network** - with rapid sharing, transactions, production and consumption. The speed and volume of interactions has been exploding.
- Activities that tap into this network take off at incredible speed.



- This results in **data, data, data** – which enables new services, powers machine learning and AI technologies, and results in precise targeting and customization.

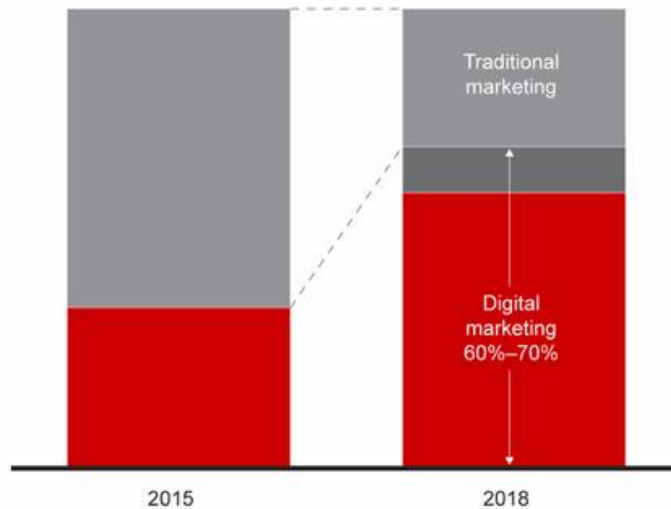
This Consumer Network Is Now Driving Business Behavior

- Business are changing to keep up with the digital transformation that consumers have embraced and now expect.
 - **Marketing and selling to consumers means digital and social media.**
 - Zara, Budweiser and others consider China their innovation hubs for digital globally.
 - **Mobile payment is the norm.** Trying paying in cash in China.
 - International merchants are rapidly changing for Chinese tourists.
 - **Cheap and fast delivery is the norm.** On-demand delivery is evolving to a “deliver everything” model.
 - KFC and Yum China never stop talking about digital and delivery.
 - Starbucks ignored digital and delivery and gave Luckin an opening.

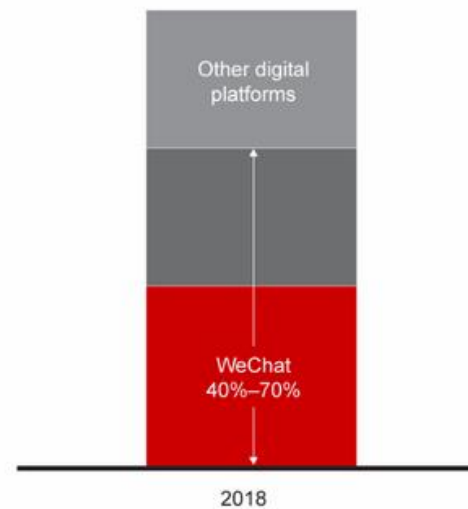


Example: Luxury Brands Are Shifting Their Advertising Spending Online in China

Marketing spending split



Digital marketing spending split



Note: Top 40 brands based on revenue
Sources: Brand interviews; Bain analysis

The World's Merchants Are Responding to China's +1B Digital-First, Consumer Network







This Consumer Network Is Creating Superior Infrastructure

- Infrastructure that is more tuned to digital consumer needs - in:
 - Payment and credit (and financial services)
 - Logistics and delivery
 - Regulation
 - Access to low-cost labor
 - Physical stores for retail and services
 - Smart cities are being built
- Ecommerce and by extension any digital-related service that needs infrastructure is going to be better in China.
 - Amazon is struggling to integrate with Whole Foods.
 - Amazon Go stores are anemic.
 - Meanwhile, Alibaba (and JD) is rapidly re-writing the rules of retail.





Jeff Towson photo

The Consumer Network Is Becoming a Consumer-Producer Network

- Consumers are becoming service providers.
 - China, SE Asia and other developing economies have low-cost labor.
 - Digital consumers are becoming digital producers.
 - Enables delivery and services like across town shipping, on-demand drivers and specialized but standardized labor.
- Consumers are becoming content creators. Reviewers and influencers are powerful drivers of brand experience and engagement.
 - In a word-of-mouth culture, personality and authenticity is the most valuable brand.
 - Forget reviews and corporate ads.
 - E-commerce is increasingly content-driven.

And All Of This Is More Powerful and Urgent in a Developing Economy



Developing Economies Have Greater Problems and Urgency in:

Pollution
Food Safety
Congestion
Corruption
Crime
Poverty



Developing Economy Consumers Are Seeing Dramatic Improvements in the **Consumer Experience**



Developing Economy Businesses Are Seeing Quantum Jumps in **Productivity / Efficiency**



Question: Is This A Virtuous Cycle?

- **Digital China Is Effectively a +1B Digital-First, Consumer Network**
- **It Is Becoming a Consumer-Producer Network**
- **It Is Driving the Creation of Superior Businesses and Infrastructure**
- **Which Is Enabling More and Better Digital Services.**

Question: Will India, SE Asia and Other Developing Economies Following China or the West?

China's Development Path Is Diverging From the West



- China's +1B Digital-First, Consumer Network Is Creating Digital-First Businesses and Infrastructure.
- **New Retail Is Online-Merge-Offline: A Radical Transformation of the Consumer Experience and Intelligent Logistics.**
- Innovation in Digital Is Combining With Innovation In Smart, Connected Hardware.
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-- And Some Fun Stuff from 2019 --







New Retail Began As E-Commerce for Groceries

- E-commerce has problems in groceries – small margins, perishable goods, fewer SKUs and fast, frequent deliveries.
- Adding physical locations solved a lot of these problems. It moved inventory close to consumers. And consumers were used to doing their own delivery.
- Alibaba's Hema / Freshippo supermarkets initially focused on these problems:
 - Physical locations combining **retail, local services** and **logistics / on-demand delivery and other services**.
 - Local nodes that shifted inventory closer to consumers. And changed from a hub-and-spoke logistics model.

“New Retail” Became Online-Merge-Offline (OMO)

- Alibaba began to combine physical and online in retail:
 - Hema Supermarkets
 - Digitized mom-and-pop stores
 - Cashier-less convenience stores
 - Pop-up stores.
 - Department stores
 - Hotels
- Online and physical assets are combining to create a seamless, data-driven consumer experience.
 - Kai Fu Li at Sinovation calls it OMO (online-merge-offline).

OMO Is a Radical Transformation of the Consumer Experience

- We are on the verge of an **explosion of digital tools and use cases in retail** - based on:
 - Digitizing users and operations.
 - User engagement generating data and improved products and services – which generates more users and engagement.
 - The emergence of AI-assistants and augmented reality.
- Right now, everyone is assembling assets, digitizing customers and gathering data. We are seeing lots of attempts at new use cases and business models in OMO.
 - So far, supermarkets have the greatest number of use cases. Alibaba President Michael Evans said he's most excited about this business model.

Where Else Will OMO Transform the Consumer Experience?

And Where Not?



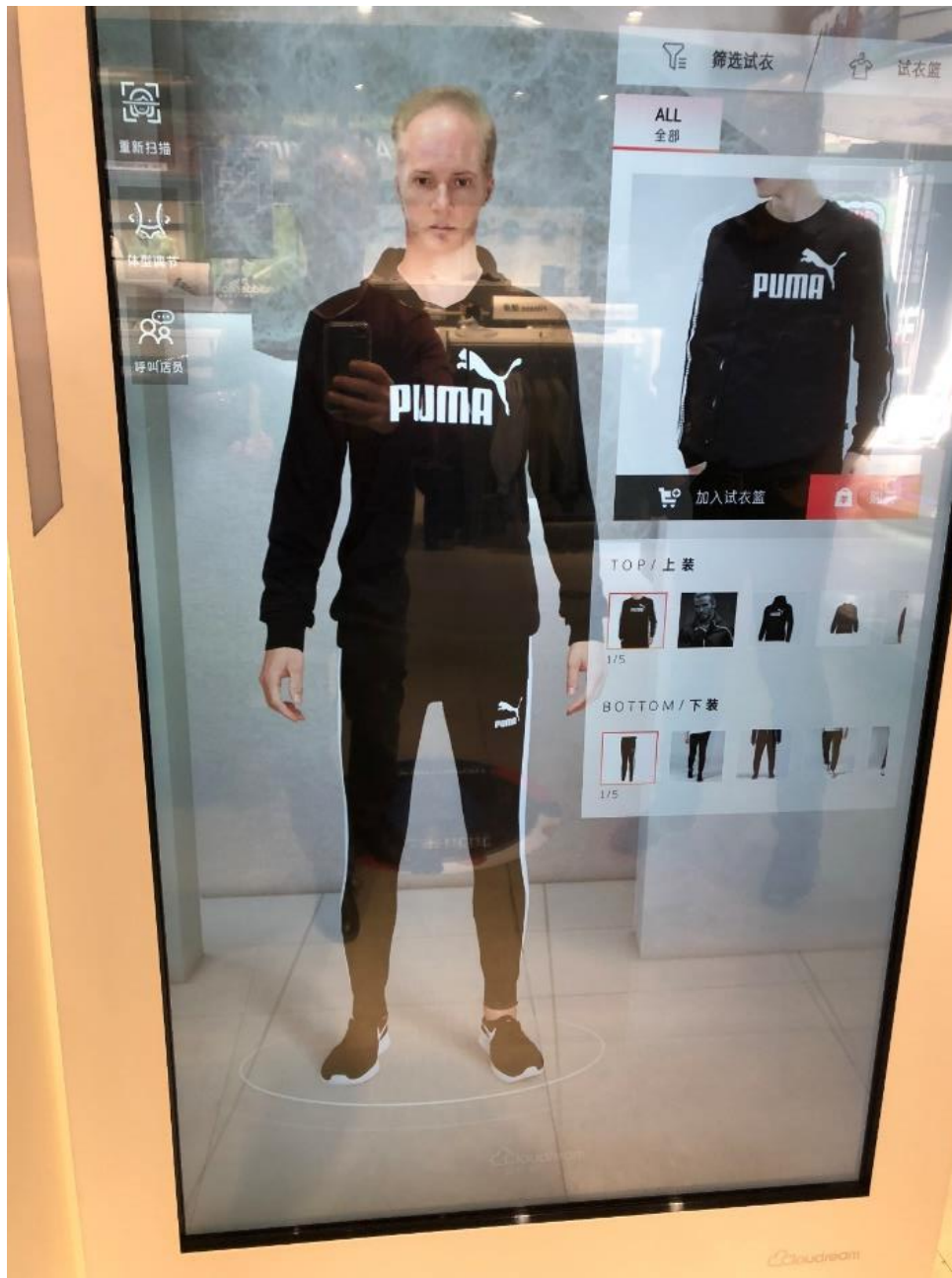


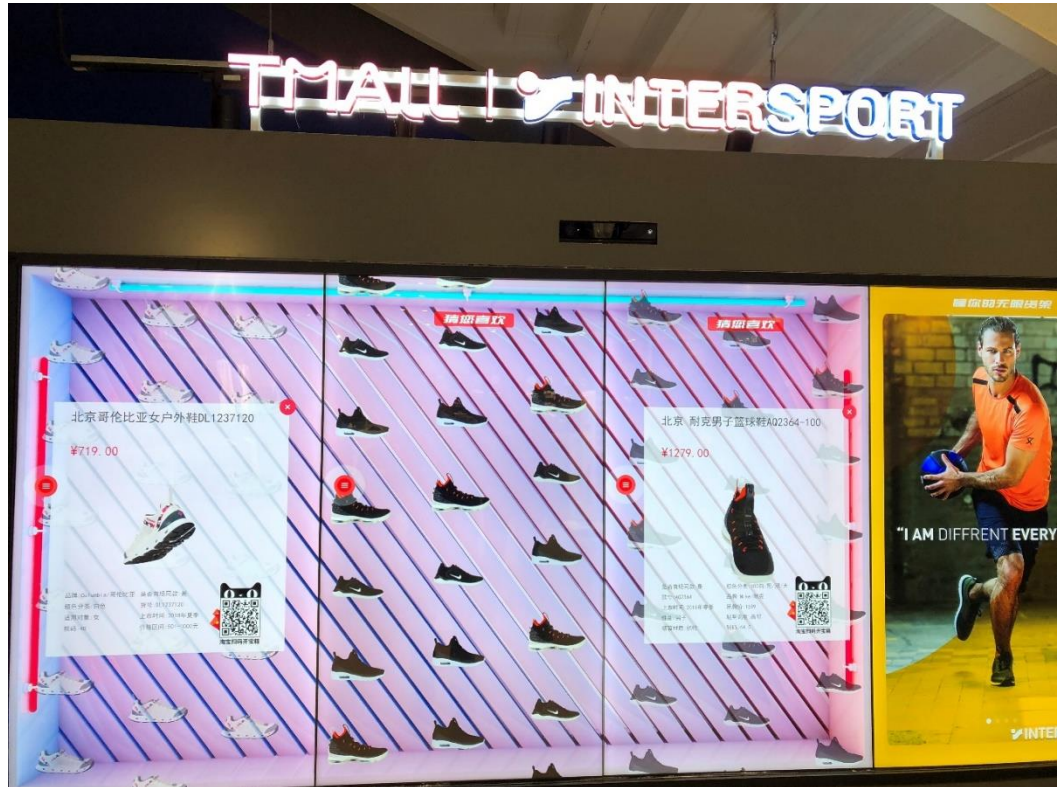








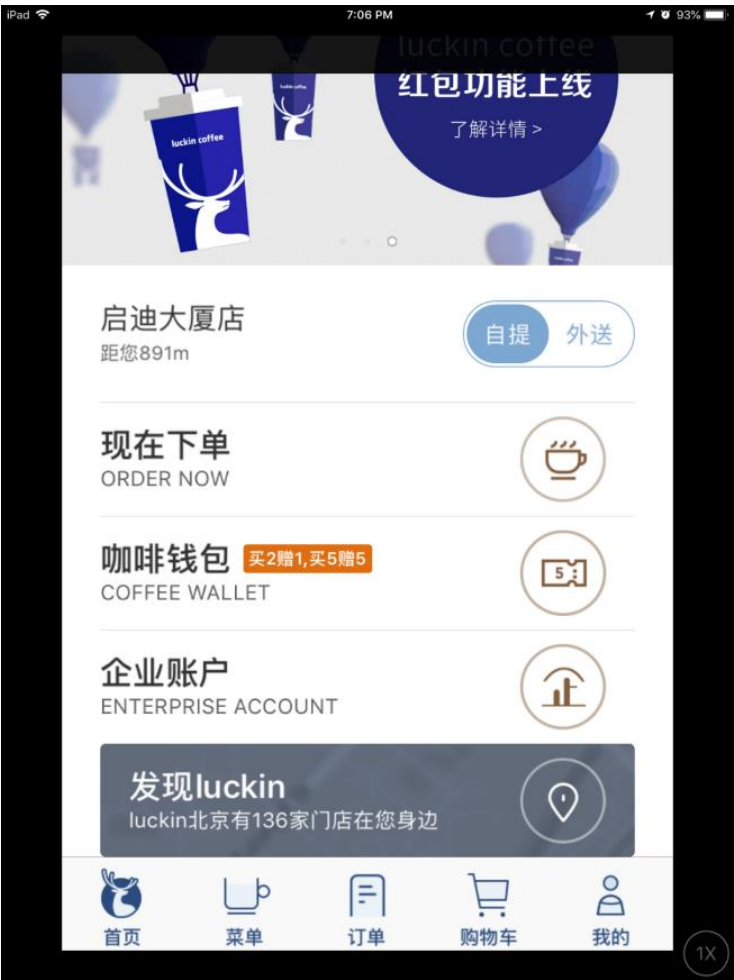












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What Infrastructure Would You Need to Compete in New Retail?

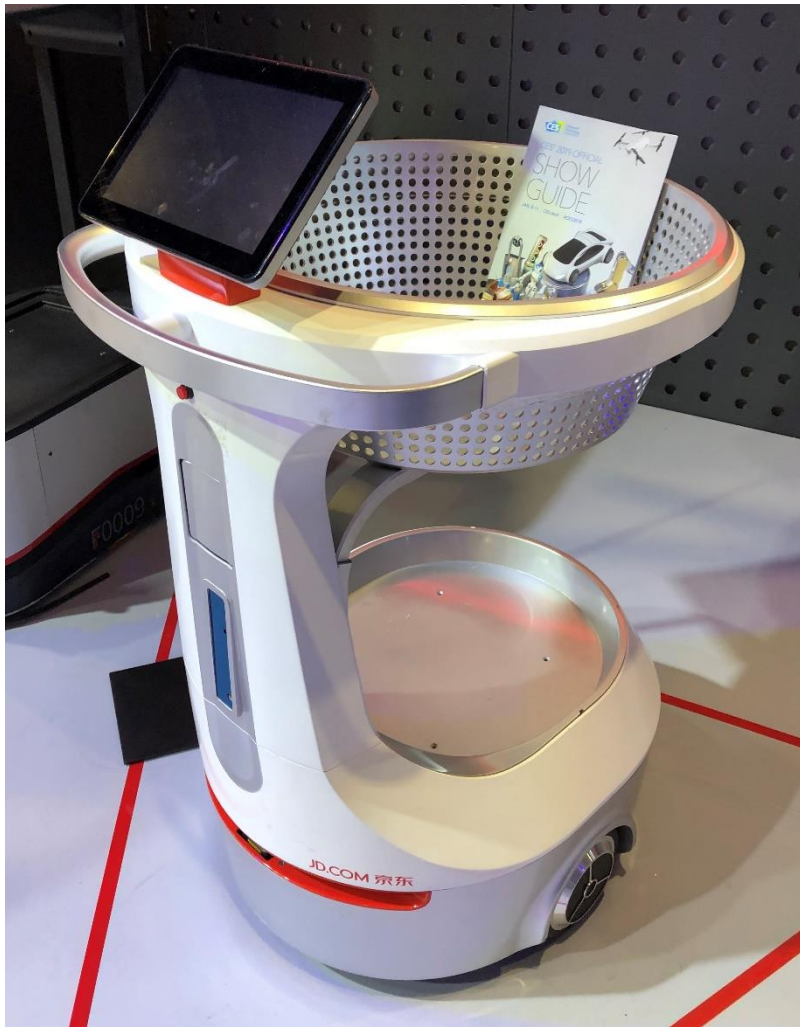
**An E-Commerce Site?
National Logistics?
Local Retail Locations?
On-Demand Delivery?
An Ecosystem?**













因思想 而光华







OMO Is Also Driving the Next Evolution in Logistics



Alibaba Is Building an Open IoT Platform for Logistics

- Cainiao Smart Logistics Network is a partnership for supply chain and fulfillment centers.
- The **IoT platform will allow partners and developers to share information and establish standard protocols to help logistics firms deploy IoT solutions at scale.**
- **First, you digitize and connect:**
 - This platform will power robots in different scenarios, smart equipment with an image-recognition function, near-field sensing systems, and acoustic-photoelectric systems, all of which will help efficiently connect orders, equipment, and workers.
 - Cainiao aims to connect 100 million smart devices to its IoT technologies in three years, including its connected devices, warehouse and delivery robots and algorithm-backed management systems.
- Then **you open it to everyone.** Then **you make it intelligent (AI+Cloud).**
 - Platform will move from being pure digitally driven to collaborative to intelligence-driven in real-time.



**When In Doubt,
Check Who Has the Most Users,
Engagement and Data on the
Demand-Side.**



Some Theory on Digital Superpowers and Platform Competition



Digital Transformation Happens At (At Least) 3 Levels

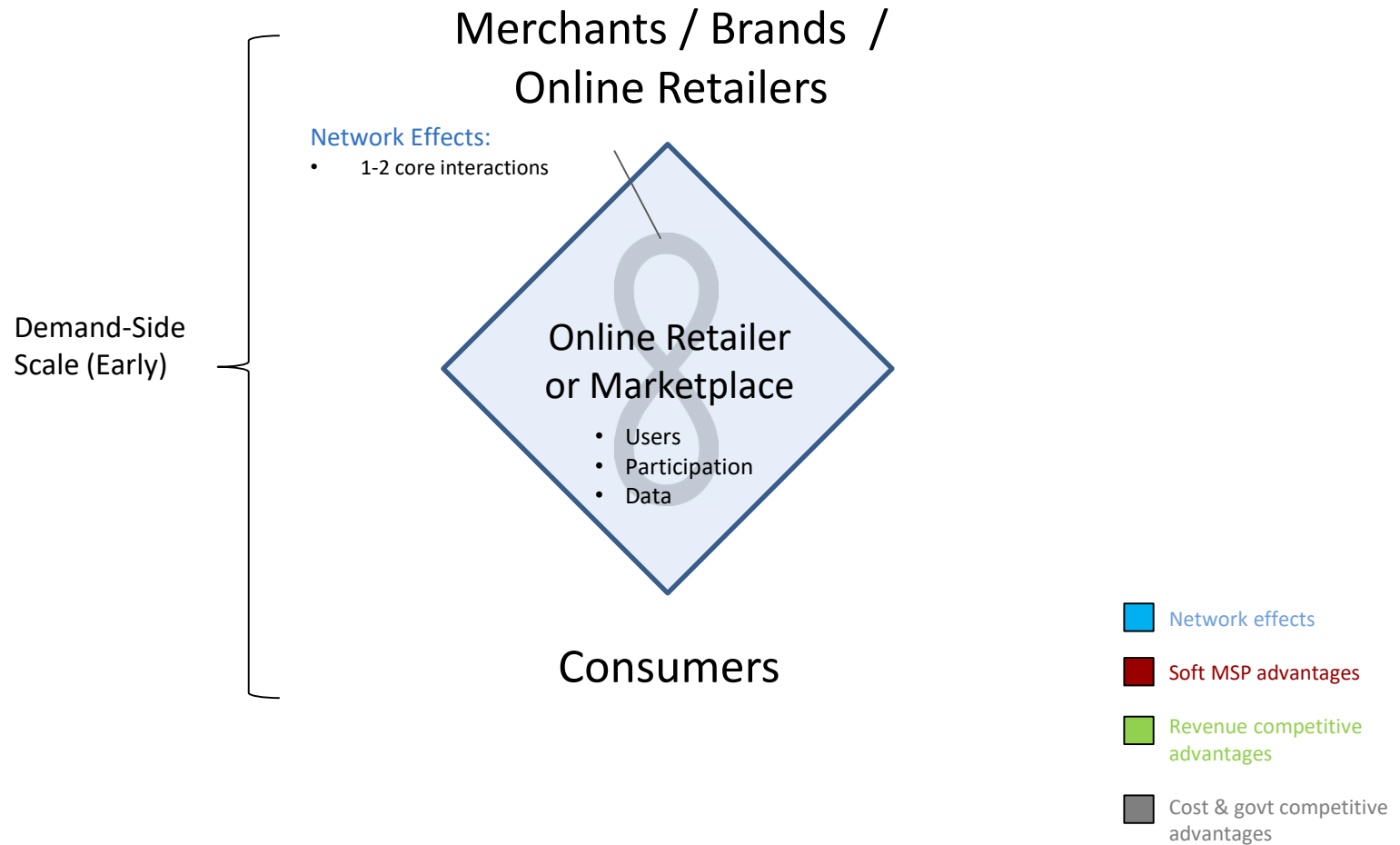
- It's overwhelmingly granular.
 - Lots of new digital and data technologies being developed - and these can be used in lots of ways within businesses.
 - Best approach to digital strategy is to look **at the use cases**. McKinsey has good reports that take this bottoms-up approach.
- Bubbling up out of all these use cases are at least **6 digital / platform superpowers** that can really change a company.
 - Most of these rely on the powerful economics of digital.
- At a higher level, we can see **platforms evolve in certain patterns**. Becoming digital conglomerates and other powerful linked structures.

6 Digital Superpowers

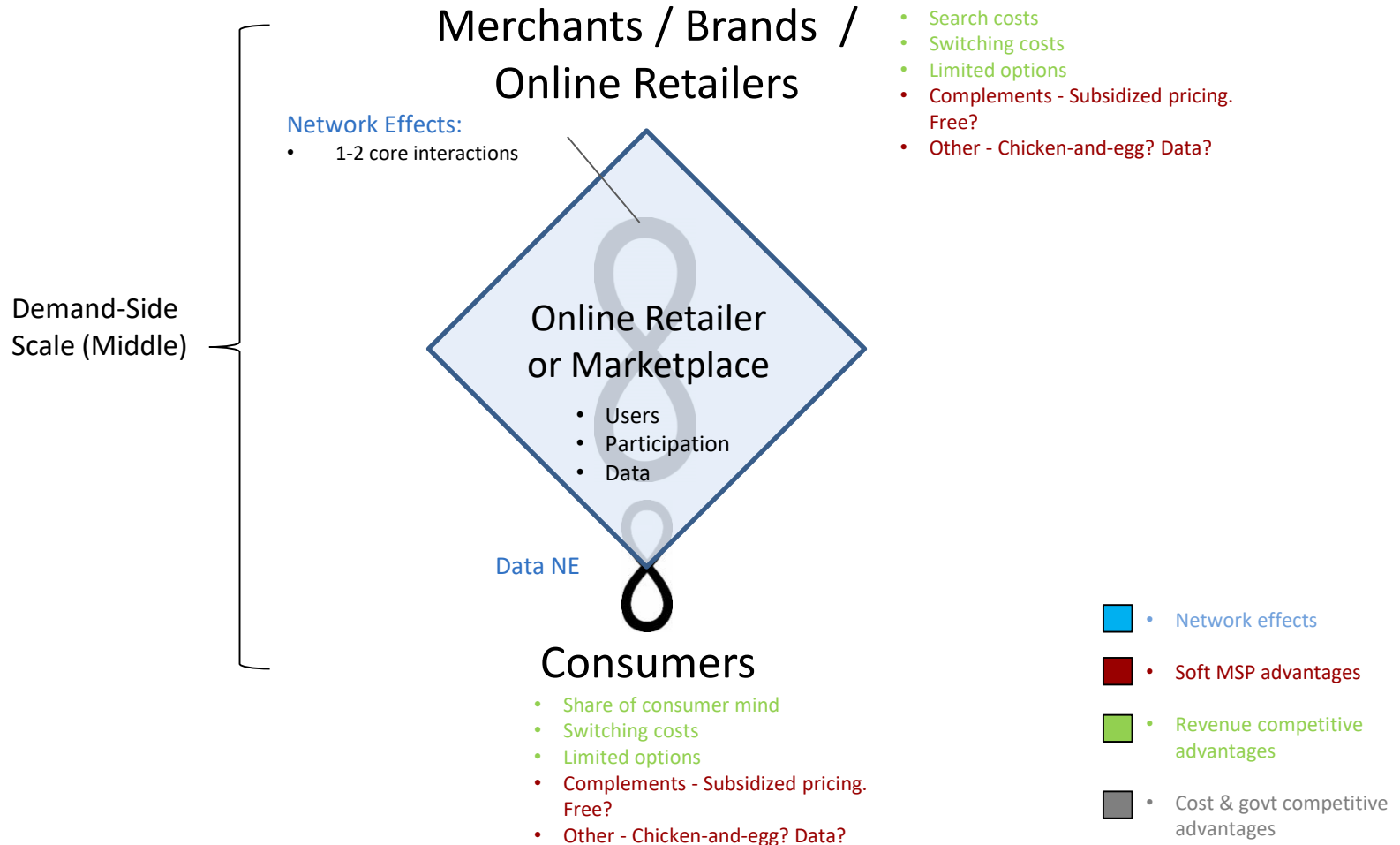
1. Dramatically improved user experience and journey. You need sufficient delta of improvement vs. pain of adoption.
2. Creates a platform and gets complements or soft MSP advantages. Includes platforms without network effects.
3. Captures network effects, including data network effect. Including 1-sided network effect without platform.
4. Captures other competitive advantages - including switching costs and digitally-enhanced share of consumer mind (habits, behavior, etc.).
5. Viral or other powerful customer acquisition and/or retention mechanism.
6. Scalable. Especially if can get massive demand-side scale.



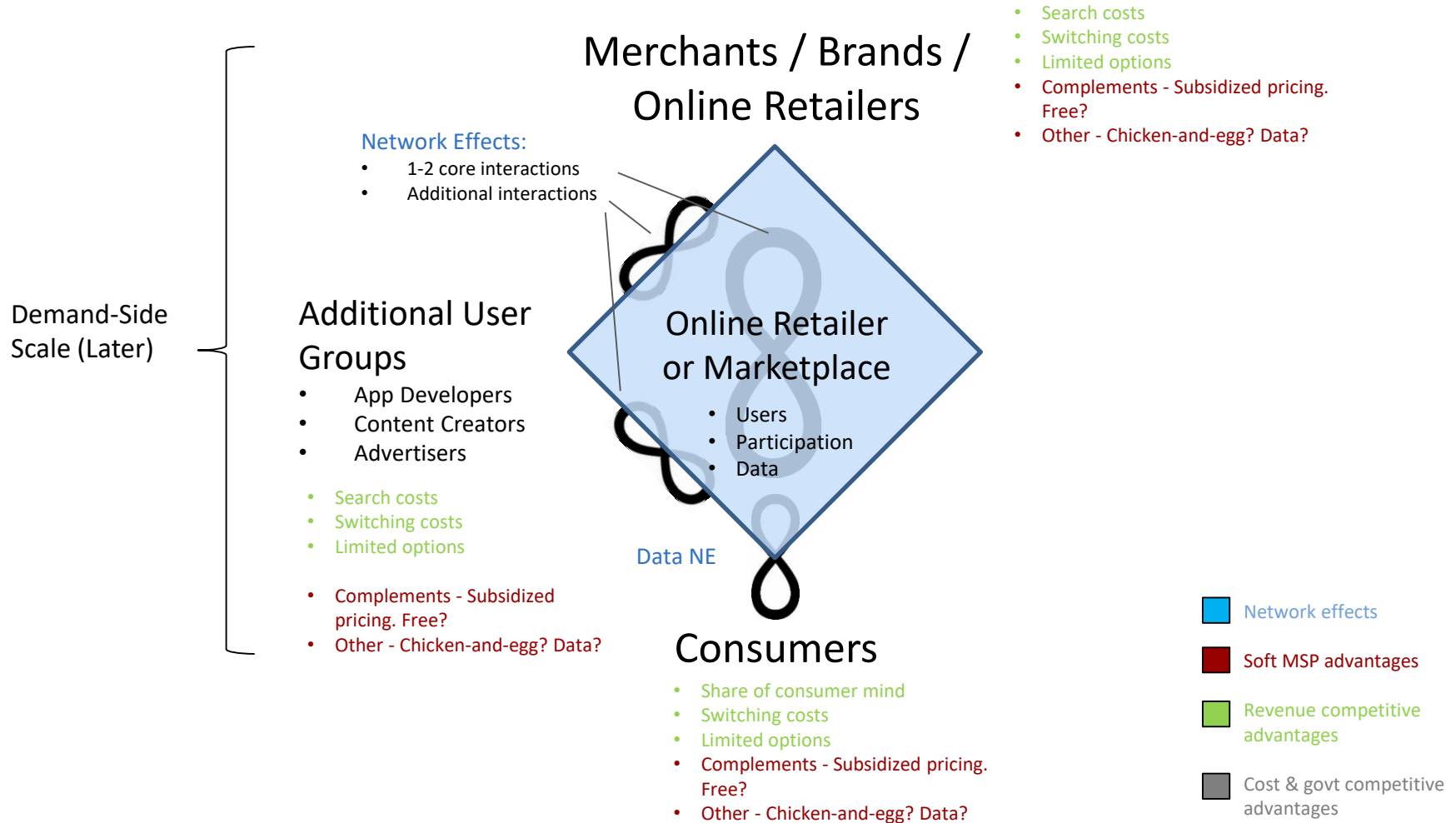
Stage 1: Build Basic Demand-Side Scale Around 1-2 Core Interactions.



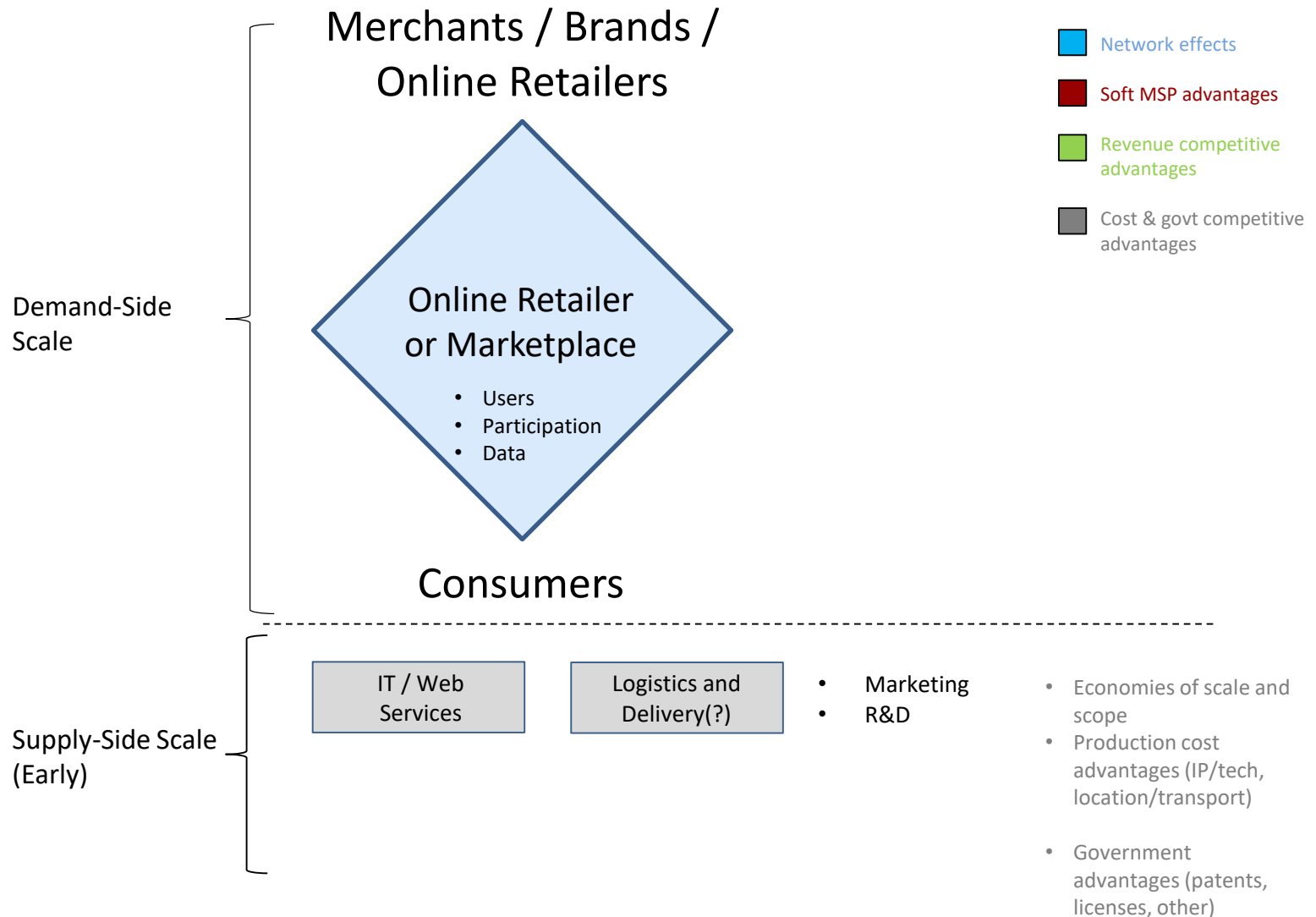
Stage 2: Add Demand-Side Scale By Adding Other Advantages.



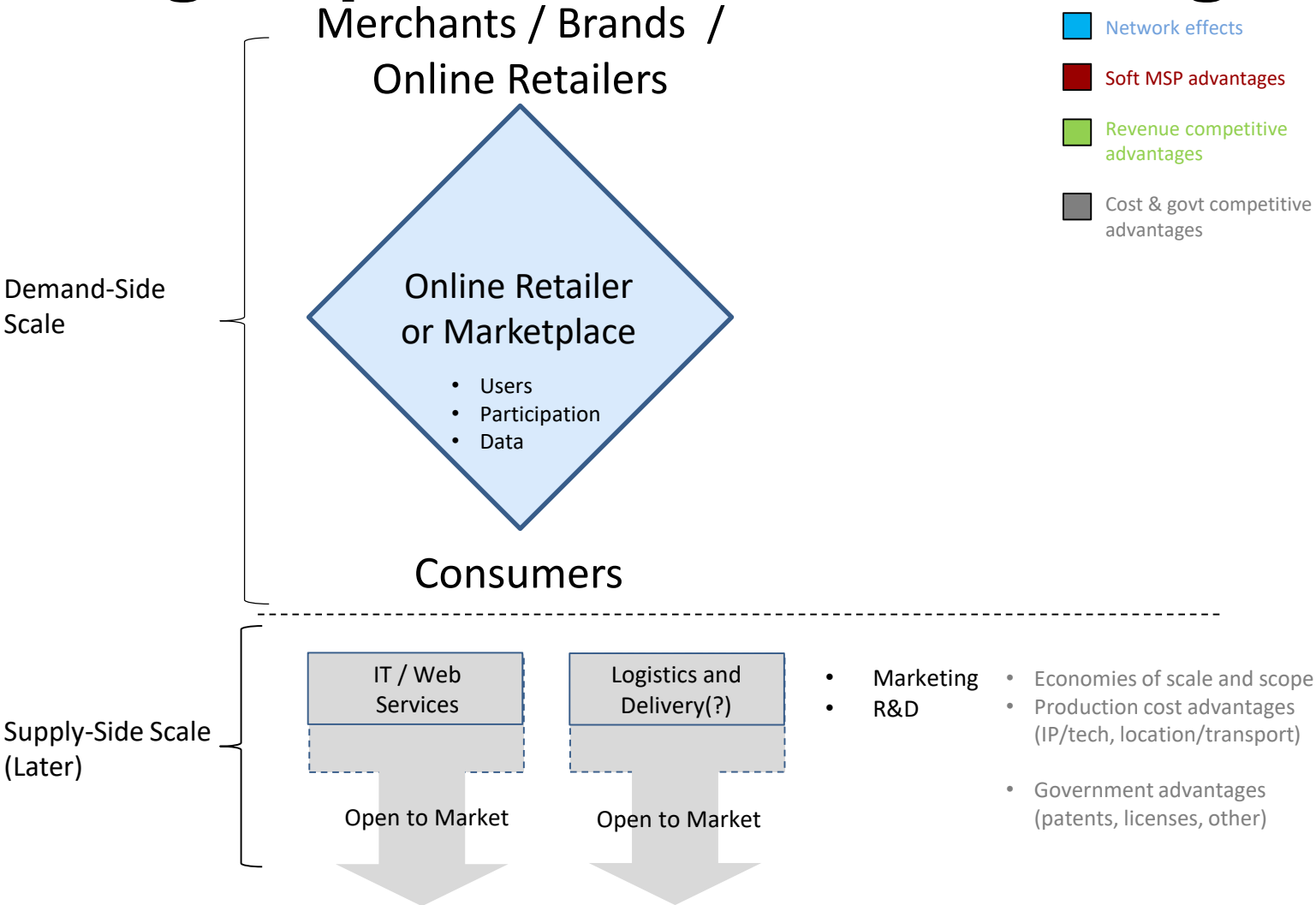
Stage 2b: Add Demand-Side Scale. By Adding New Users and Use Cases.



Stage 3: Build Supply-Side Scale



Stage 3b: Add Supply-Side Scale. By Digitizing Capabilities and Inverting.



Stage 4: Exploit & Innovate Fast (From Big Advantages).

Merchants / Brands /

Online Retailers

Demand-Side Scale (Later)

Additional User Groups

- App Developers
- Content Creators
- Advertisers

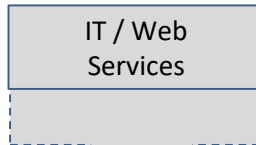
Online Retailer or Marketplace

- Users
- Participation
- Data

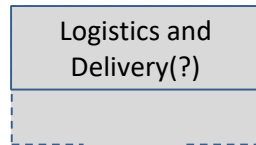
Consumers

- Identify & exploit new services, products & use cases. Innovation speed compounds with structural advantages.
- Horizontal attacks.

Supply-Side Scale (Later)



Open to Market



Open to Market

- Marketing
- R&D

- Network effects
- Soft MSP advantages
- Revenue competitive advantages
- Cost & govt competitive advantages

Stage 4b: Add Complementary Platforms and Linked Businesses

Merchants / Brands /
Online Retailers

Demand-Side Scale (Later)

Additional User Groups

- App Developers
- Content Creators
- Advertisers

Online Retailer or Marketplace

- Users
- Participation
- Data

Consumers

Complementary Platforms

- Identify & exploit new services, products & use cases. Innovation speed compounds with advantages.
- Horizontal attacks
- New platforms
- Linked businesses

Supply-Side Scale (Later)

IT / Web Services

Logistics and Delivery(?)

- Marketing
- R&D

Open to Market

Open to Market

- Network effects
- Soft MSP advantages
- Revenue competitive advantages
- Cost & govt competitive advantages

Stage 5a: New Retail Dramatically Increases Users, Participation, and Data

Merchants / Brands /
Online Retailers

Demand-Side
Scale (Later)

Additional
User Groups

- App Developers
- Content Creators
- Advertisers



Consumers

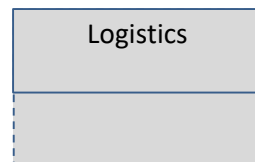
Physical
Retailers

- Supermarkets
- Shopping malls
- Convenience stores
- Other

Supply-Side Scale
(Later)



Open to Market



Open to Market

- Marketing
- R&D

- Network effects
- Soft MSP advantages
- Revenue competitive advantages
- Cost & govt competitive advantages

Stage 5b: New Retail Also Dramatically Increases Supply-Side Scale

Merchants / Brands /
Online Retailers

Demand-Side Scale (Later)

Additional User Groups

- App Developers
- Content Creators
- Advertisers

Online Retailer or Marketplace

- Users
- Participation
- Data

Physical Retailers

- Supermarkets
- Shopping malls
- Convenience stores
- Other

Consumers

Supply-Side Scale (Later)



Open to Market



On-Demand Delivery

Open to Market

- Marketing
- R&D

- Network effects
- Soft MSP advantages
- Revenue competitive advantages
- Cost & govt competitive advantages

Stage 5c: New Retail Creates New Network Effects and Competitive Advantages

Merchants / Brands /
Online Retailers

Demand-Side Scale (Later)

Additional User Groups

- App Developers
- Content Creators
- Advertisers

Online Retailer or Marketplace

- Users
- Participation
- Data

Physical Retailers

- Supermarkets
- Shopping malls
- Convenience stores
- Other

- Switching costs
- Limited options
- Complements - Subsidized pricing. Free?
- Other - Chicken-and-egg? Data?

Network Effects:

- 1-2 core interactions

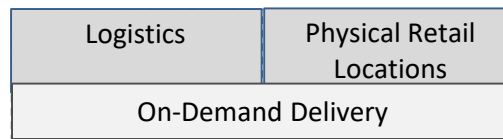
Consumers

- Share of consumer mind
- Switching costs
- Limited options
- Complements - Subsidized pricing. Free?

Supply-Side Scale (Later)



Open to Market



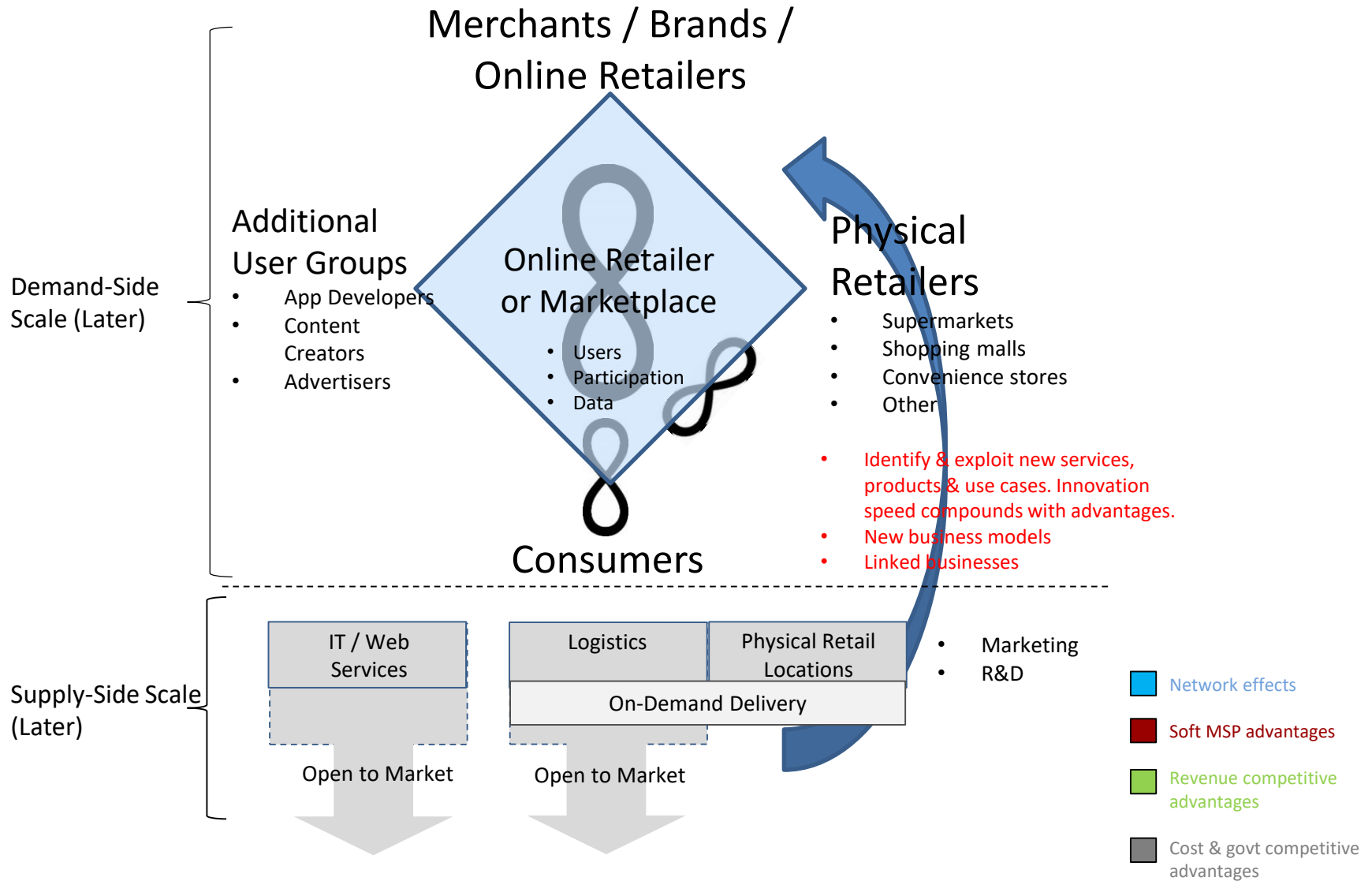
Open to Market



- Marketing
- R&D

- Network effects
- Soft MSP advantages
- Revenue competitive advantages
- Cost & govt competitive advantages

Stage 5d: New Retail Dramatically Increases the Ability to Exploit & Innovate New Services and Use Cases



4 Views of “New Retail”

- For consumers, the view is great.
 - They are going to get what they want, where they want it and when they want it.
 - New retail is a purification of demand.
- For Alibaba, the view is spectacular.
 - Their huge online marketplace is going to be merged with parts of the physical marketplace. The number of users and the amount of activity on their platform is going to increase dramatically.
- For content creators / advertisers / app developers, the ecosystem is getting bigger.
- But for merchants, brands and retailers, new retail changes many of their businesses, strategies, customer relationships and maybe even their brands.



Alibaba Also Launched Uni-Marketing in 2017

- New retail is: uni-commerce plus uni-marketing
- Brings together all of Alibaba's data about a consumer from its e-commerce, social media, entertainment and other services.
- This data is the intelligence for merchants and brands to shape their presence and services in the new retail world in real time.



A Major Challenge to Merchants, Retailers and Brands

- New retail and especially uni-marketing represent a challenging new world.
- Uni-marketing will give them a comprehensive view of current and potential customers: what they watch, where they go, what they chat about, what websites they browse and so on.
- The old winning formula of “location, location, location” plus marketing is going away?
- Changes to brand equity and customer relationships?



Currently a Race to Assemble Tangible Plus Intangible Assets

- For marketplace platforms (like Alibaba), the resources that matter are:
 - **Captured online consumers.** Their number, time spent, money spent and their participation on the site. And your degree of capture.
 - **Captured online and physical merchants and brands.** Their number, their percent of business on the site, their integration of their operations into the site and their marketing activity on the site.
 - **Content creators.** Although this can be done as another type of retail (like Amazon's digital media) or as an audience-building platform (like Youku).
 - **Data** from e-commerce, entertainment, social media and other sources.



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+12M Smart Bikes Deployed in 1-2 Years



Jeff Towson photo



What Other Physical Product or Service Has Become This Pervasive This Quickly?

In China / Asia, Innovation in Digital is Combining With Innovation in Smart, Connected Hardware

What Happens When You Digitize the World's Largest Manufacturing Ecosystem?

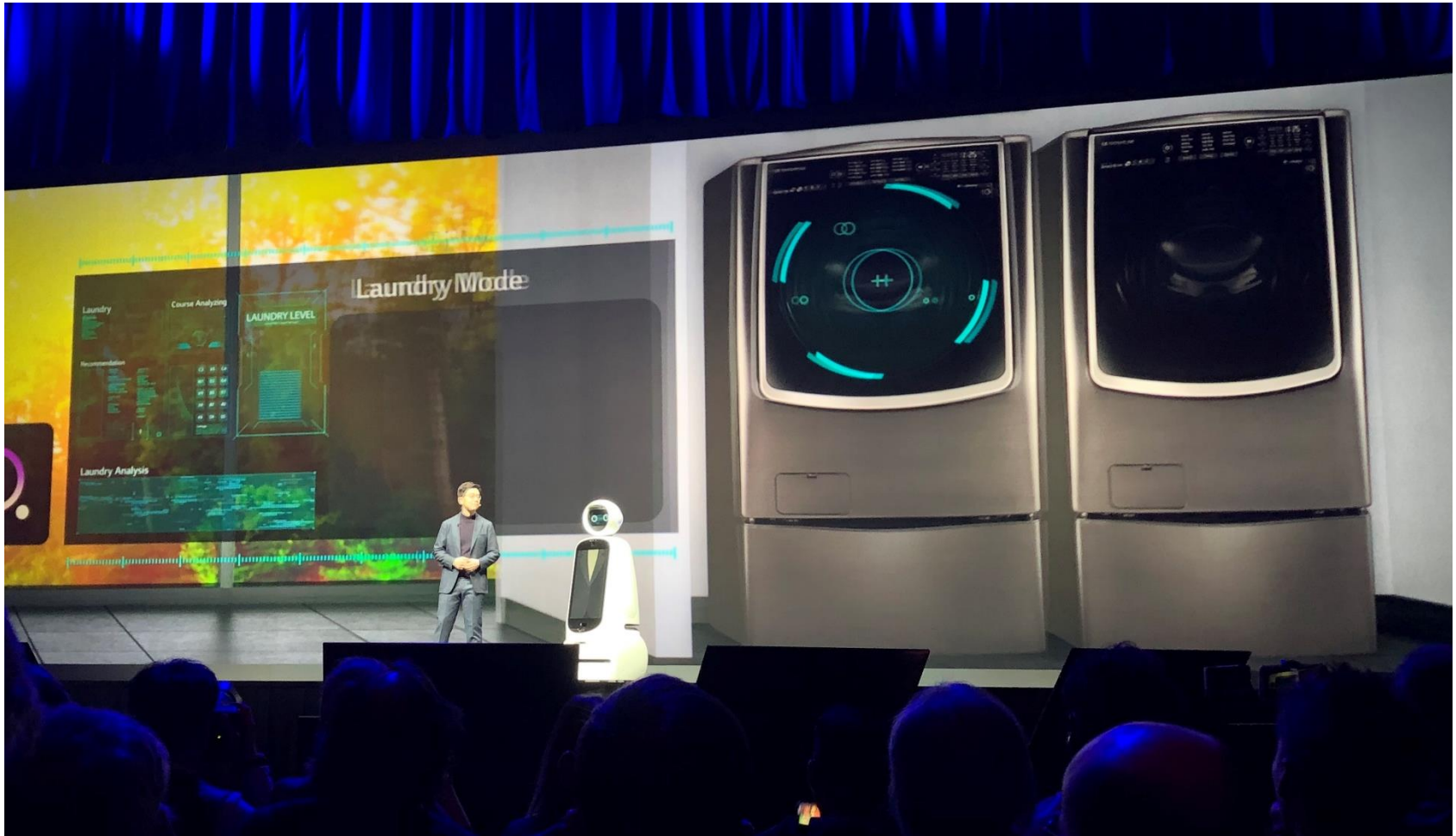
In Near-Term, Watch for Innovation in Smart & Connected Products

- Innovation in manufacturing (at scale) combining with innovation in digital / software (at scale).
- Chinese smartphones now winning globally – Xiaomi, Oppo, Vivo.
- Chinese smart bikes, scooters and drones going global - Mobike, Niu and DJI.
- Smart appliances, smart homes, smart speakers, and service robots are on the way.
 - Xiaomi and Tmall Genie
 - Haier, Gree, Midea
 - Hisense vs. Samsung
 - Haidilao automated restaurant
 - Midea acquires Kuka
- Autonomous vehicles?

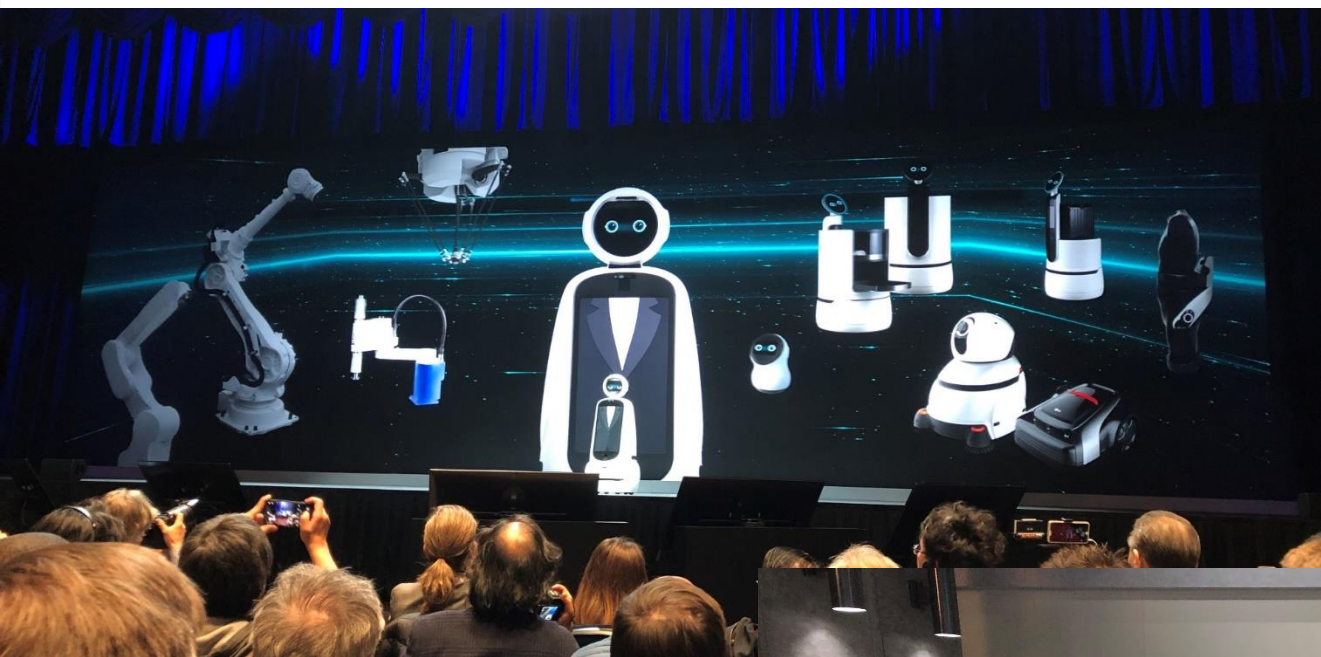
1,300 Chinese Companies at CES 2019 (vs. 1,700 US Companies)













Smart Cars Are On The Way









EQ

Electric
Intelli

Nikon

EQ
SILVER ARROW





F-3DSX

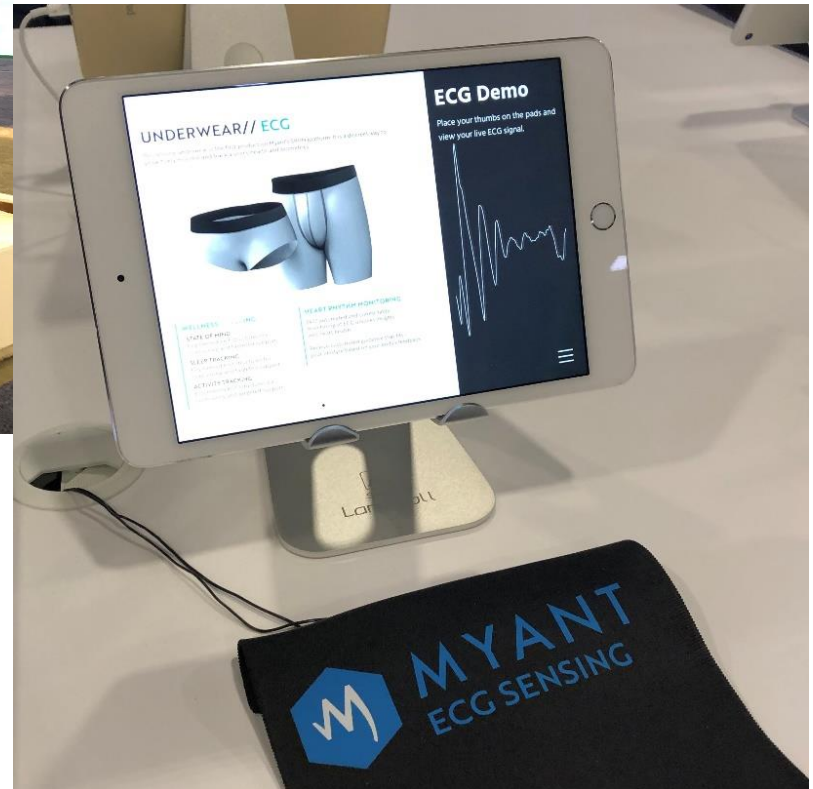
TUJUAN







Smart Underwear



“In the past, it would be impressive if an assembly line can produce 2,000 of the same garments in five minutes. Today onwards, making 2,000 different garments in five minutes will be more impressive,”

- Jack Ma.



Longer-Term, Digitized Manufacturing Is a Big Idea

- An explosion in data and new computing capabilities—including artificial intelligence, automation and robotics, IoT, additive technology, and human-machine interaction.
- Potentially huge changes in research and development, supply chain, and factory operations to marketing, sales, and service.
- Also creating connectivity among designers, managers, workers, consumers, and physical industrial assets.

New Manufacturing Is Especially Big in China

- Supply chains are still very fragmented in most sectors compared to US.
- Unprecedented gains in industry productivity will reshape Chinese manufacturing.
- Relatively lower cost of labor means automation / digital will look different in China – with more man-machine interactions.
 - Pharma clinical testing is automating but still has a lot of human content. Wuxi AppTec is a good example.



Jack Ma's "New Manufacturing"

- In the industrial age, you made one product at scale. In the information age, you efficiently produce a wide variety of products.
- Traditional **business-to-consumer manufacturing** becomes **more personalized manufacturing** - largely driven by consumer demands.
- New Retail combines virtual with physical. "New Manufacturing" combines manufacturing with the service industry.
- "New Manufacturing is the perfect blend between manufacturing and service. A company's competitive strength won't lie in its manufacturing capabilities, but rather measured by its underlying innovative thinking, customer experience and service capabilities," Jack Ma.



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Heavy-handed government support “can be highly efficient and extraordinarily effective.

When the long-term upside is so monumental, overpaying in the short-term can be the right thing to do.”

- Kai Fu Li, Sinovation



In 2015, China Launched Mass Entrepreneurship and Innovation

- To create an innovation-based economy.
- Significant financial support and tax incentives.
- Land allocation and development for innovation areas.

In 2017, Announced Plan for World AI Leader by 2030

- In 2017, govt launched plan to become **the world AI leader by 2030**, with a domestic industry worth \$150 billion.
- Multibillion-dollar investment to support “moonshot” projects, start-ups and academic research in A.I.
- To be at the level of the United States by 2020. And by 2030, to “become the world’s premier artificial intelligence innovation center.”
- Example: Tianjin govt plan for \$5 billion fund for A.I. industry. Plus an “intelligence industry zone” on more than 20 square kilometers of land.



iFLYTEK Speech Transcriber

iFLYTEK Speech Transcriber is a professional all-in-one speech recognition device. It can easily achieve speech-to-text conversion for various application scenarios.

iFLYTEK

从盒盖打开到语音识别
From the cover to the voice



China Is Becoming the World's Laboratory for Smart Cities

- 500 of the world's 1,000 smart city pilot projects are in China.
- PATH: PingAn, Alibaba, Tencent and Huawei are leading smart city initiatives.
 - PingAn has tech capabilities.
 - Alibaba has online and mobile payment platforms.
 - Tencent has communication connections.
 - Huawei has smartphones and other hardware.



Traffic Video Structuring Solution



Alibaba's City Brain

- Launched in 2016, City Brain makes **live traffic predictions**, **optimizes traffic flow**, and **detects traffic incidents**.
 - Uses data from video footage, traffic bureaus, and public transportation systems and mapping apps.
 - Hangzhou dropped from 5th to 57th for China's most congested cities.
- Hangzhou City Brain 2.0. Covers 42 square kilometers, with traffic violations reported with 95% accuracy.
 - +110 autonomous alert capabilities and 1,300 traffic lights controlled by AI.
 - +200 police available through the platform to attend to traffic emergencies.



Alibaba's City Brain (cont)

- Rescue and firefighting teams identify and monitor fire emergencies.
- Can automate emergency dispatching and help emergency vehicles find the quickest routes.
- Provides information to firefighters, such as water pressure, the number and position of fire hydrants in a given area, the location of gas pipes and other details.
- Over time, City Brain can learn traffic patterns and make recommendations to improve traffic efficiency, like the best ways to plan new roads, or change bus routes.
- City Brain launched in Hangzhou, Suzhou, Guangzhou, Macau and Malaysia

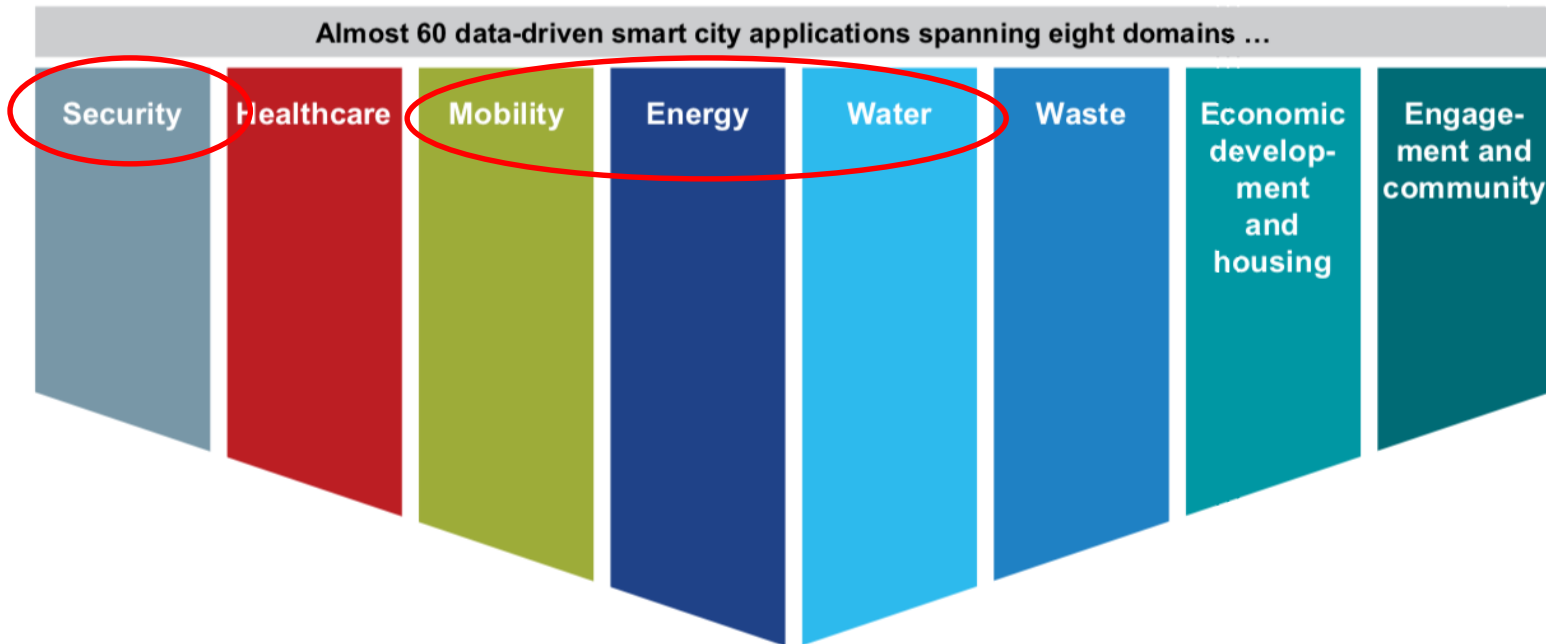
Smart Cities Are Mostly About Three Tools

- Smart infrastructure – from both private and public sectors
- Data – both public and private
 - Real-time and comprehensive
 - Sensors and smartphones are very important
- Software / apps and various digital tools on the infrastructure
 - Enables govt to plan for future, respond in real-time, allocate resources, and other.
 - Companies and individuals can respond in real-time, improve city situations, save time and energy, etc.

8 Types of Apps Attract Attention

Exhibit 3

Smart city applications have significant potential to improve the quality of life in urban settings.



Graphic by McKinsey & Co



Everything Comes Back to +1 B

Digital-First Urbanites

- Asian cities are the strongest performers in awareness, **usage**, and satisfaction for urban apps.
- **Apps can disseminate information to the public.**
 - Make city governments more responsive.
 - City agencies maintain an active presence on social networks.
 - Have developed their own interactive citizen apps. Help residents request assistance with mundane issues such as potholes, graffiti, broken streetlights, and dangerous intersections.
- **Apps can gather information**
 - Vehicles for residents to report concerns, collect data, or weigh in on planning issues.

Get Ready for Smart Chinese Cities to Pull Away

- Testing phase is moving fast for smart cities in China. Over half the world's projects.
- China is already really good at building and rebuilding. China iterates based on what works.
- China has greater urban density. With more people moving in.
- Everyone is on a mobile phone. Many smart city applications succeed only if they are widely adopted—and if they manage to change behaviors. The app need ongoing participation and cooperation.
- Ferocious entrepreneurial environment.
- Big data already happening.
- Cost of cloud storage and processing are falling.



The Chinese Government Can Execute Effectively, Rapidly – And At Scale



Mobility Will Be An Early Win for Smart Cities

- Roads and public transit getting smarter.
 - Digital signage and mobile apps deliver real-time information about delays - enables riders to adjust their routes on the fly.
 - Installing IoT sensors on existing physical infrastructure can help crews perform predictive maintenance, fixing problems before they turn into breakdowns and delays.
 - Collecting and analyzing data on public transit usage and traffic can also help cities make better decisions about modifying bus routes, installing traffic signals and turn lanes, adding bike lanes, and allocating infrastructure budgets. This data is starting to integrate with Didi's system.

Mobility Will Be An Early Win in Smart Cities (cont)

- Traffic mitigation and congestion tools being tested.
- Applications that ease road congestion are being deployed. Including congestion maps, intelligent street lights and even lane changing tools.
 - McKinsey says Intelligent syncing of traffic signals could reduce average commutes by more than 5 percent in developing cities where most people travel by bus.
 - Real-time navigation alerts drivers to delays and helps them choose the fastest route.
 - Smart parking apps point them directly to available spots, eliminating time spent circling city blocks.



Mobility Will Be An Early Win in Smart Cities (cont)

- Drivers use traffic apps to navigate around gridlock.
 - Smart parking apps guide them straight to available spots, saving time spent fruitlessly circling.
 - From anywhere in the city, people can summon a ride with the touch of a button.



- China's +1B Digital-First, Consumer Network Is Creating Digital-First Businesses and Infrastructure.
- New Retail Is Online-Merge-Offline: A Radical Transformation of the Consumer Experience and Intelligent Logistics.
- Innovation in Digital Is Combining With Innovation In Smart, Connected Hardware.
- The Chinese State Is "All In" On Digital. Especially in Smart Cities.

-- And Some Fun Stuff from 2019 --

Elon Musk Has Arrived In China

- In 2018, Tesla broke ground on \$5B factory in China. Will be able to produce 500,000 vehicles.
- Going against China auto JVs' plus local champions like Nio and BYD.
- Going to be awesome. The most fun since Travis Kalanick went after China.
 - Elon was recently on stage in Shanghai with Jack Ma discussing AI
 - Frequently spotted in local hotpot restaurants.

Didi and the Anti-Uber Alliance Continue to Pummel Uber Globally

- Since Uber's exit from China, they have fallen almost everywhere internationally.
 - Grab / Didi / Softbank beat them in SE Asia
 - Ola same in India (probably).
 - Didi operating directly in Mexico and Brazil (Uber's two largest markets outside the USA).





Chinese Smart Devices and Apps Are Going International

- Chinese smartphones have had tremendous success in SE Asia, Latin America, Africa and India
 - Huawei, Oppo, Vivo and Xiaomi rapid growth.
 - 4 of 5 top smartphones in India (67% of market) are Chinese.
- Chinese mobile apps rocketed up in India in 2018.
 - 44 of the top 100 apps on Google Playstore in India are now Chinese.
 - **Bytedance: Tiktok and Helo**
 - Bigo/YY: Bigo Live and LIVE
 - Tencent: Kwai
 - Cheetah Mobile: Live Me
- Are smart appliances and smart scooters next to go international?
 - Xiaomi
 - Hisense / Lenovo
 - Niu



Final Question: Are the China and Western Tech Worlds Decoupling?



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