Delineating the Major platforms acquisitions practices (incl. in IA)

Ahmed Bounfour, Keung Oui KIM, Ngoc-Phung TRAN

Université Paris-Sud, Université Paris-Saclay

Artificial intelligence and the next generation of competences :
How Digital – and Artificial Intelligence will impact jobs and competences profiles?

The World Conference on Intellectual Capital for Communities

UNESCO, 11 & 12 July 2019

Agenda

1. The Context and challenging issues

2. The issue of control of intangible assets

3. Some reference data for Major platforms

4. The Major platforms acquisition behavior

5. Interim conclusion

1 – The Context and challenging issues

Platforms as a mode of organising raises several issues

- From the **Business side** :
  Competitive conditions, relations to customers, suppliers, complementors and ecosystems

- From the **policy side**:
  The competition policy
  The innovation policy
  The society as a whole

1 – The Context and challenging issues
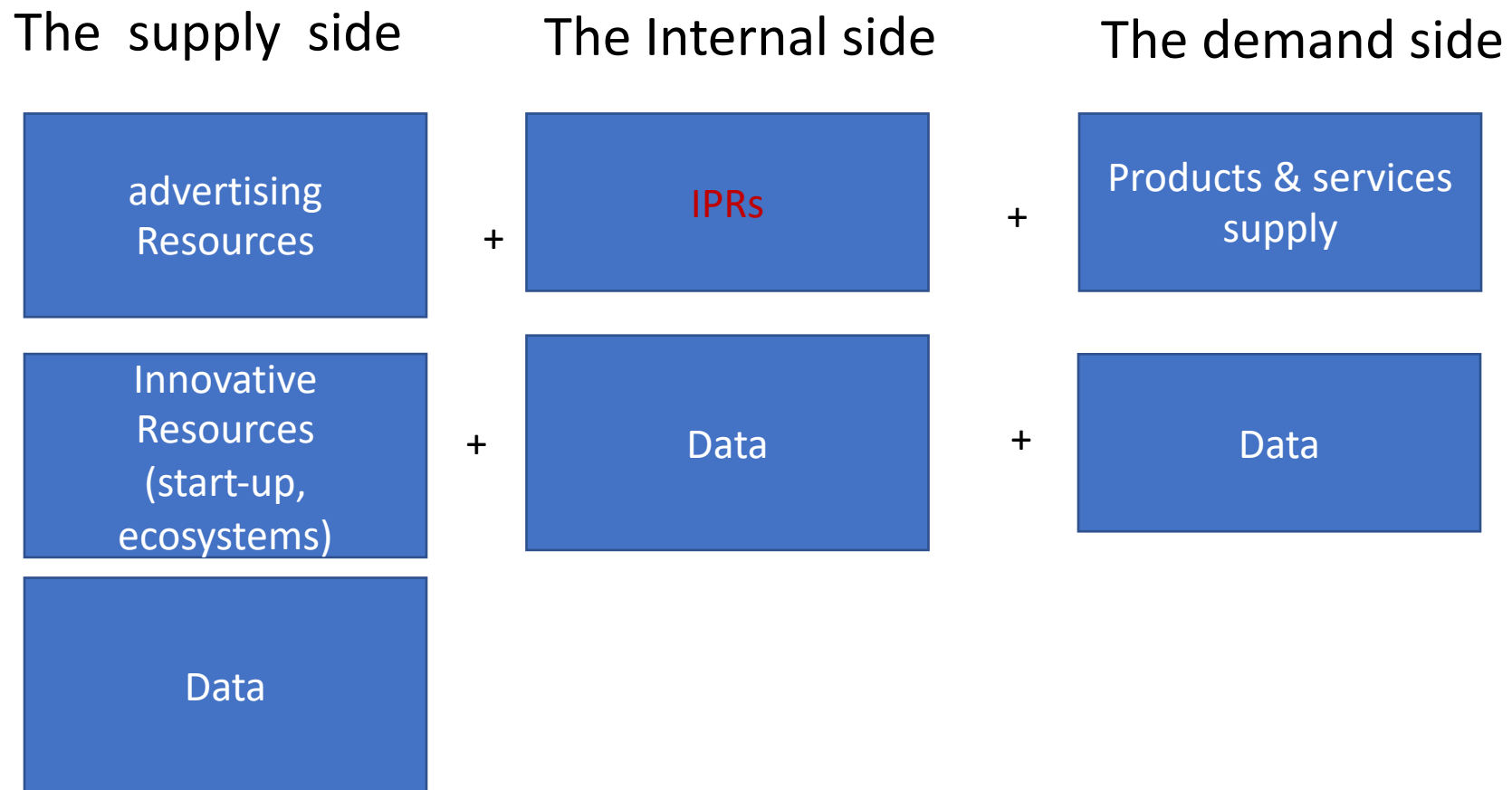
Risks of platforms

- Market dominance leading to less innovative suppliers
- Platforms advertising their own products
- Control of the society

2. The issue of control of intangible assets

How do platforms contribute to innovation ?

- Analysing products/services and services variety

- Investment- and control- of critical resources

- The platform organisational design
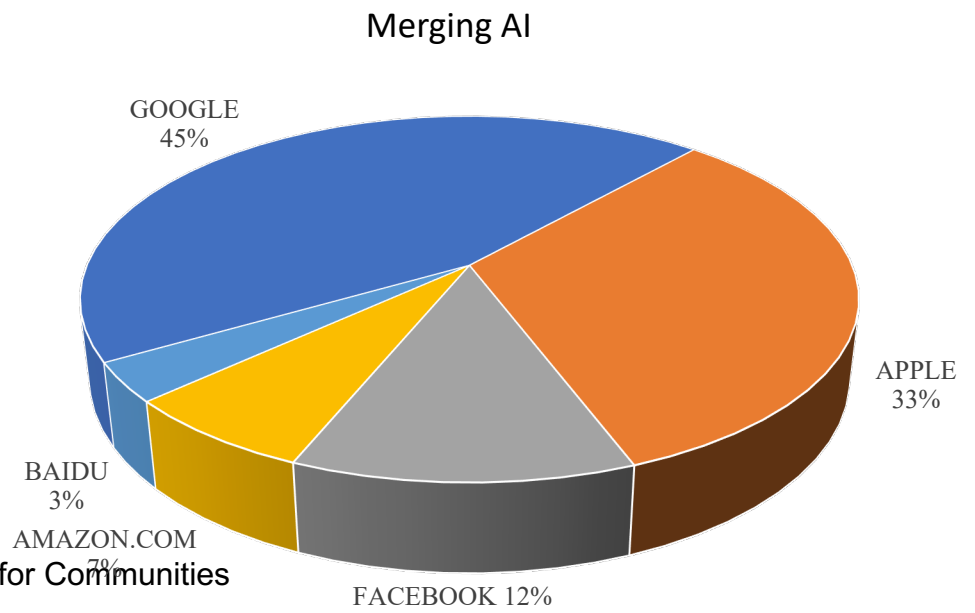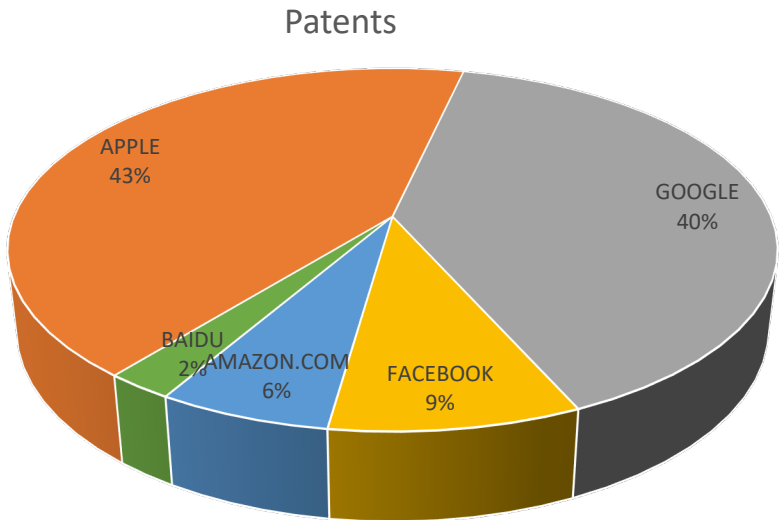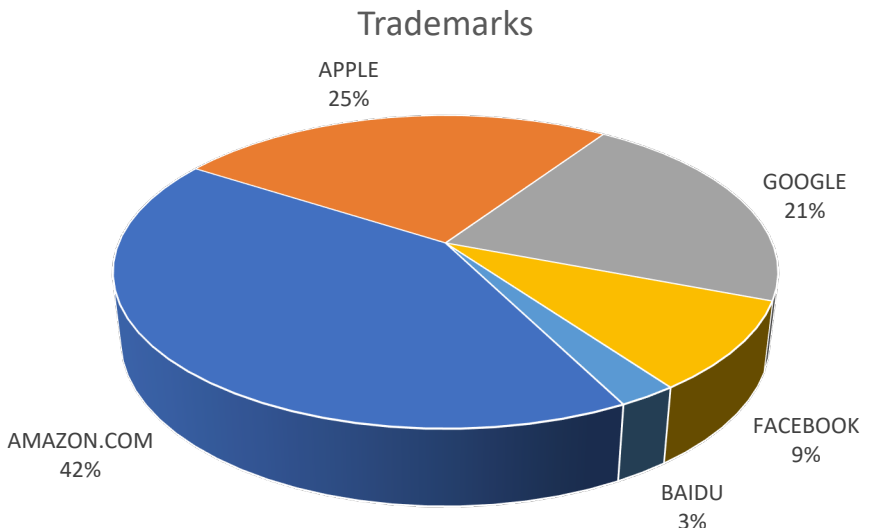
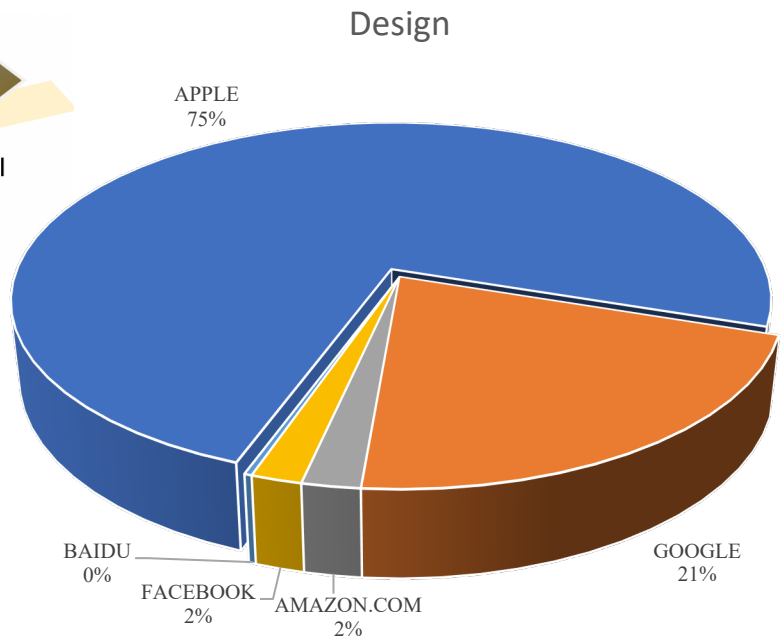- The internalisation of ecosystemic innovation

2. The issue of control of intangible assets

The supply side   The Internal side   The demand side

advertising Resources	+	IPRs	+	Products & services supply
Innovative Resources (start-up, ecosystems)	+	Data	+	Data
Data				

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Selected 15 representative platform companies in United States and China
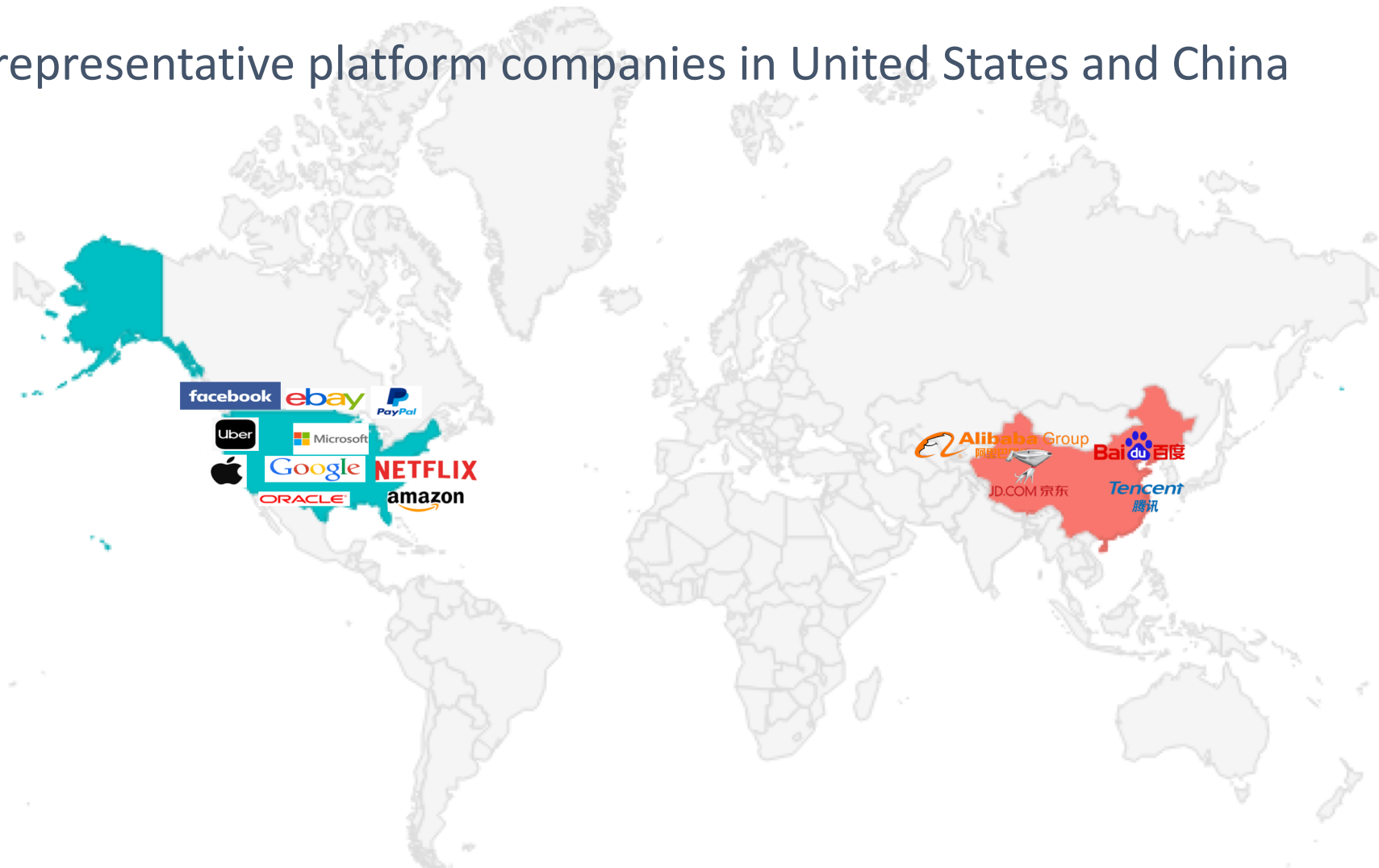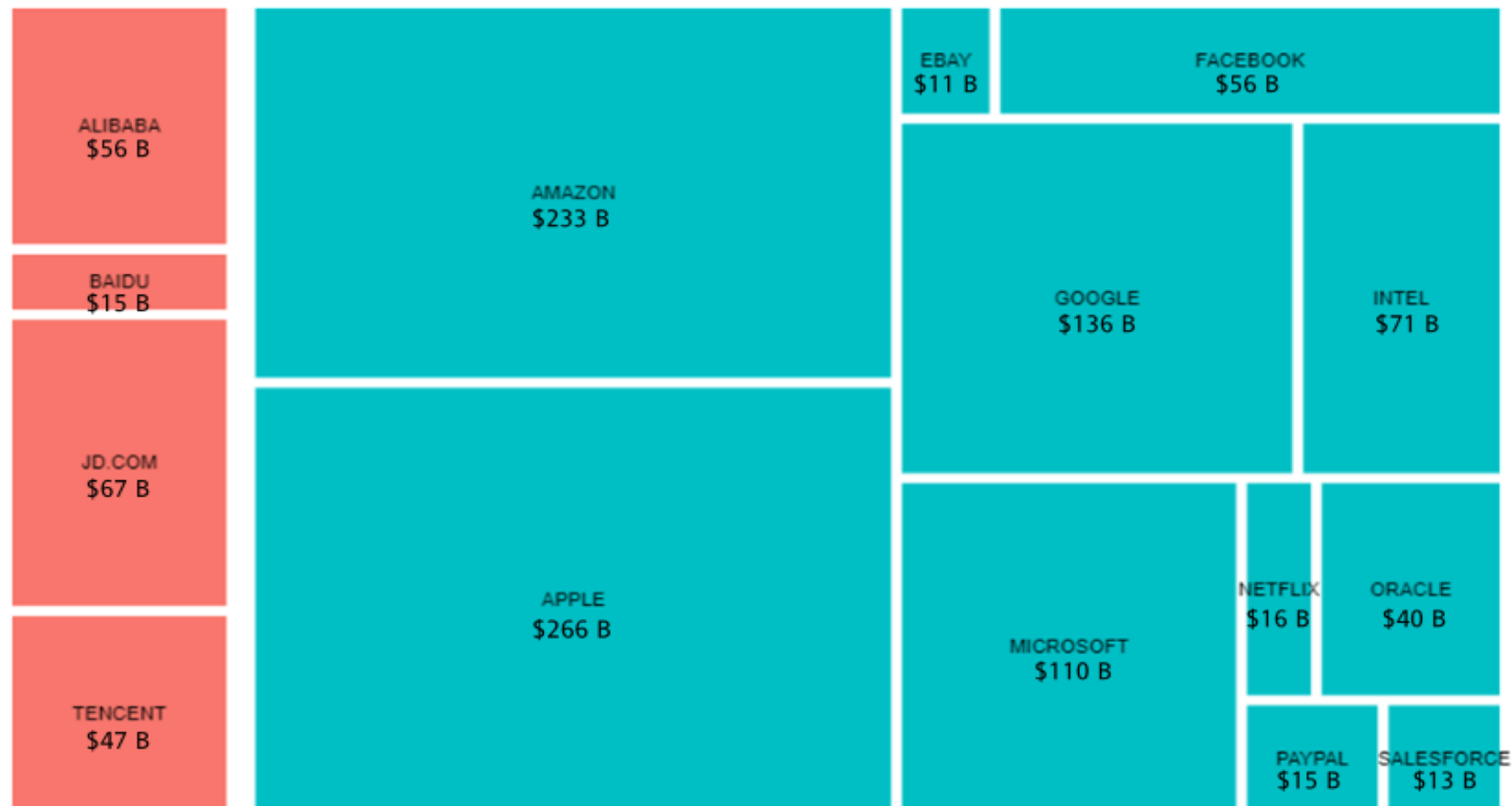
Major platform companies, classified by revenue (USD) in 2018

Data source: Orbis, retrieved July 2019

3. Some reference data for major platforms

The two sided Market : **Major platform firm's user-base**

Monthly visits

Monthly views/visit

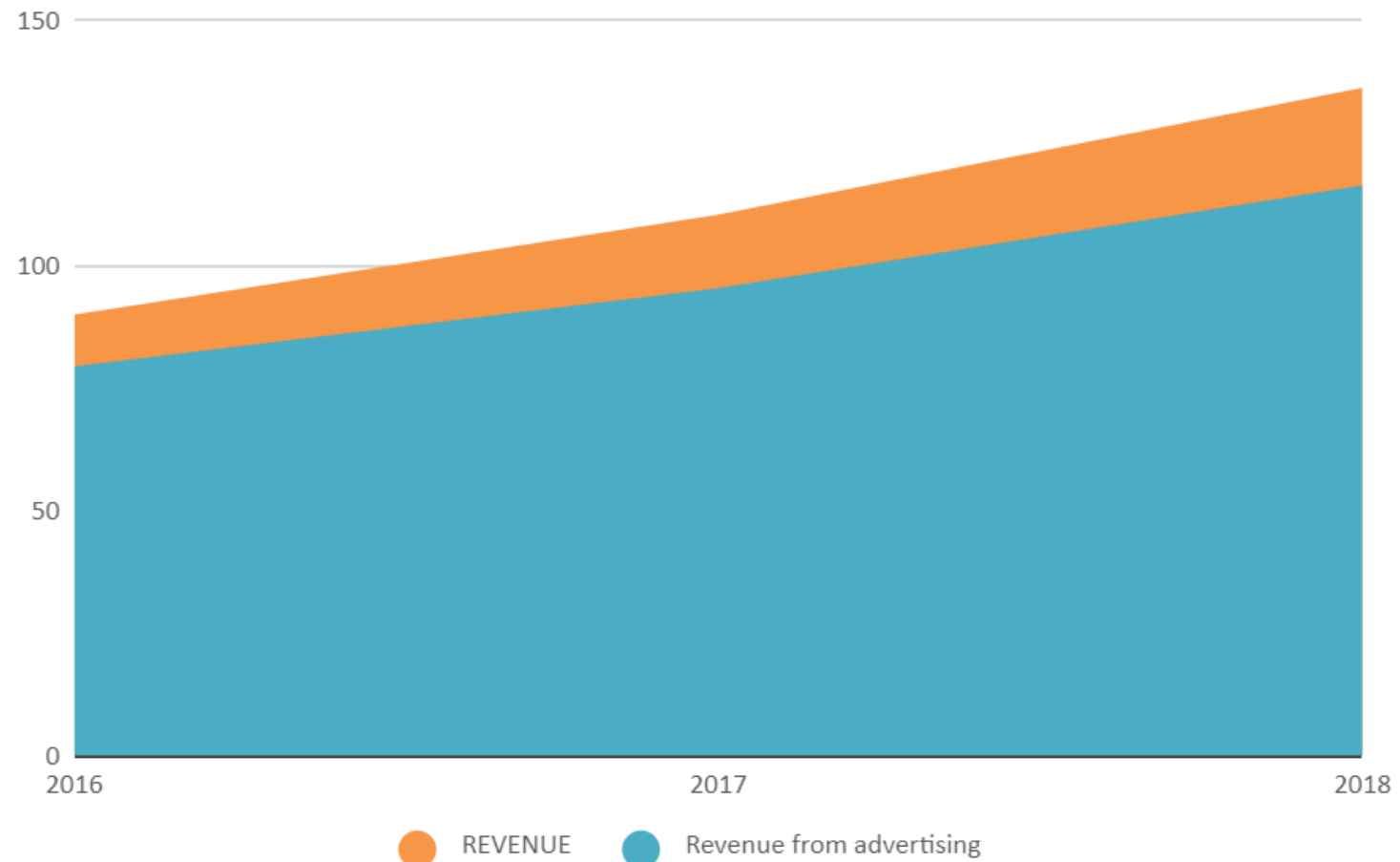iC 15 — Intellectual Capital for Communities In the Knowledge Economy

**Intellectual Capital
for Communities
In the Knowledge
Economy**

The two sided
Market : **Adertising
revenues**

Google: revenue and revenue from advertising

Revenue and revenue from advertising of Google from 2016 -
Data source: Alphabet's annual report 2018 (USD in billion

iC 15
Intellectual Capital
for Communities
In the Knowledge
Economy

The two sided
Market : **Adertising
revenues**

Facebook: revenue and revenue from advertising
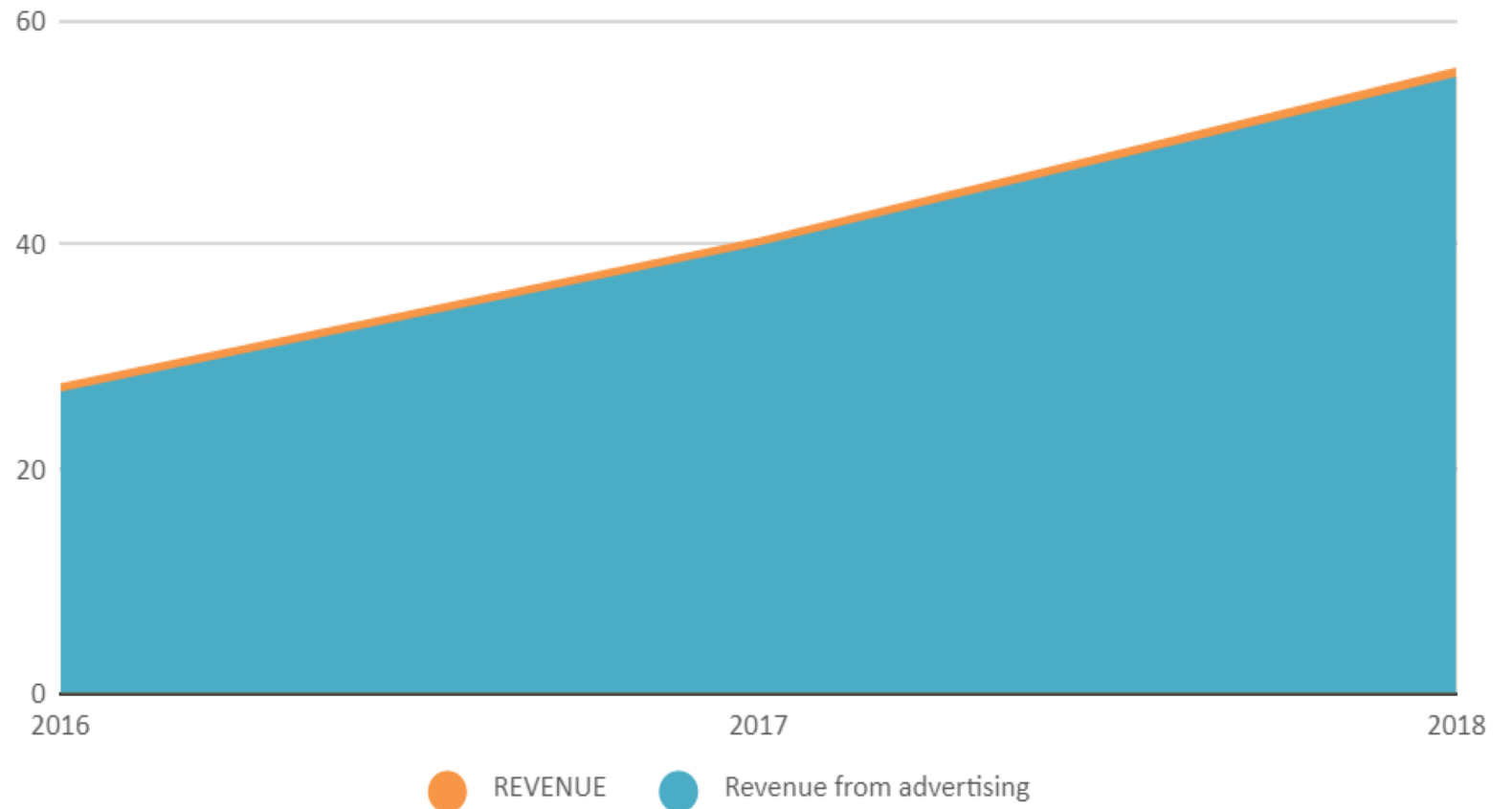
Revenue and revenue from advertising of Facebook from 2016 - 2018
Data source: Facebook's annual report 2018. (USD in billions)

Major platforms cash flow

	Year Ended December 31,		
	2016	**2017**	**2018**
Google segment			
Google properties revenues	$ 63,785	$ 77,788	$ 96,336
Google Network Members' properties revenues	15,598	17,587	19,982
Google advertising revenues	79,383	95,375	116,318
Google other revenues	10,601	15,003	19,906
Google segment revenues	$ 89,984	$ 110,378	$ 136,224
Other Bets			
Other Bets revenues	$ 288	$ 477	$ 595
Revenues	$ 90,272	$ 110,855	$ 136,819

Source : Alphabet's annual report

https://abc.xyz/investor/static/pdf/20180204_alphabet_10K.pdf?cache=11336e3

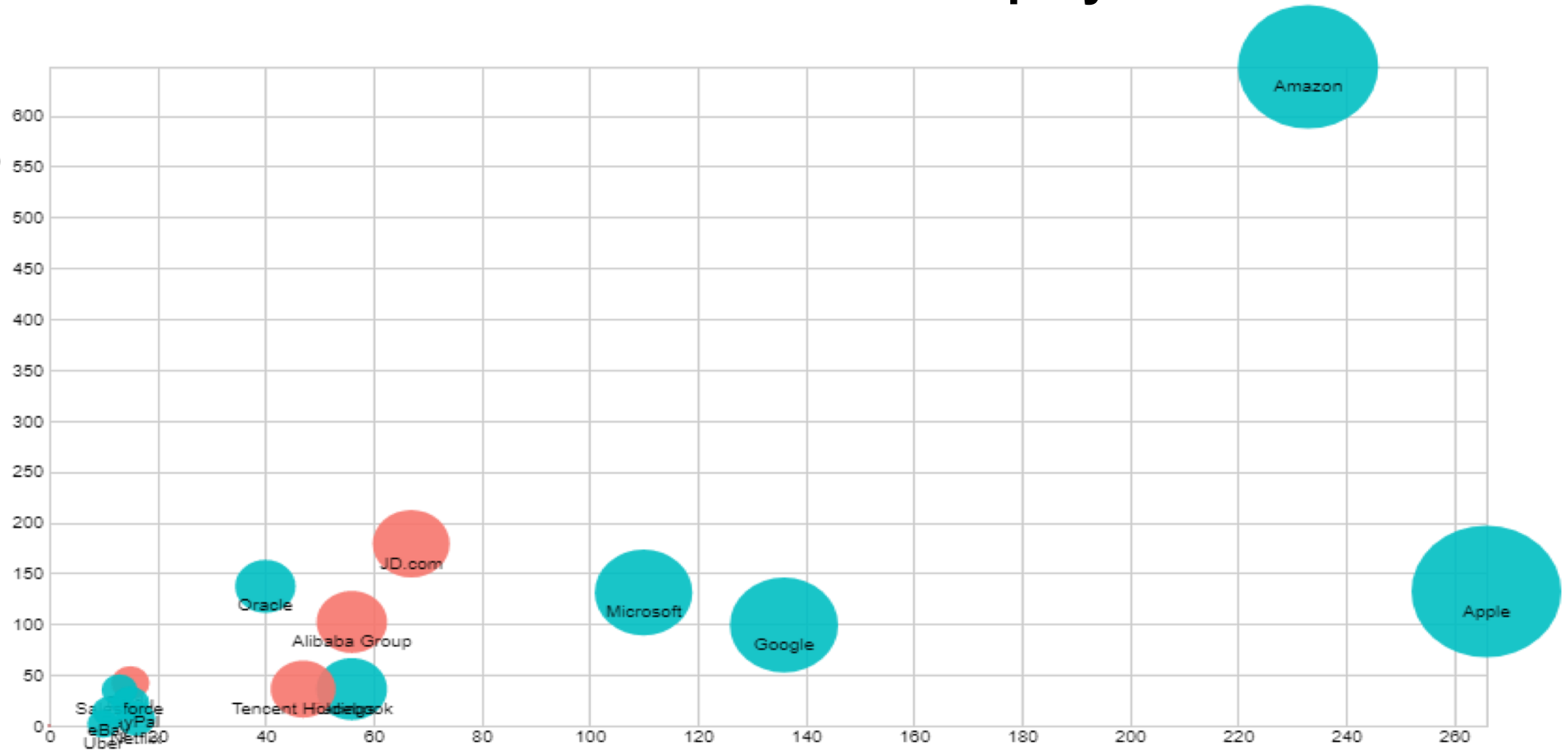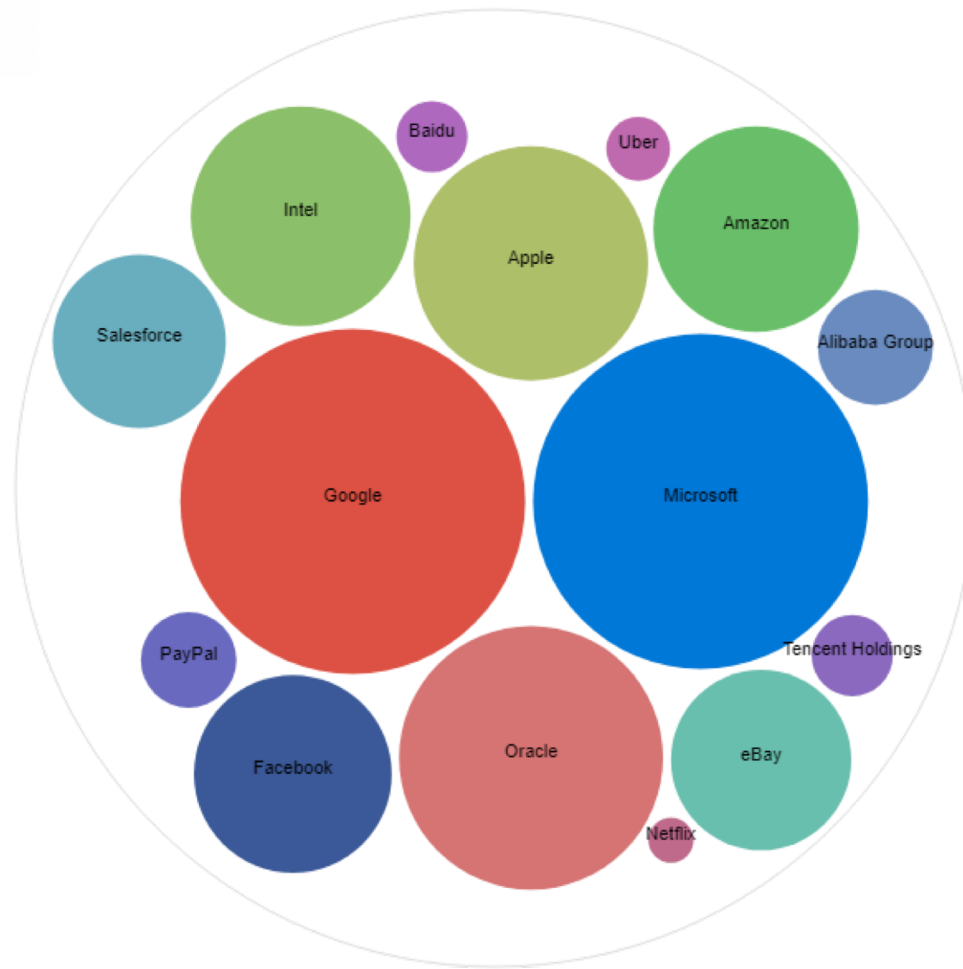# Revenue vs Number of employees

Revenue and number of employees of major platform companies in 2018 (th USD)
Data source: Orbis, retrieved July 2019

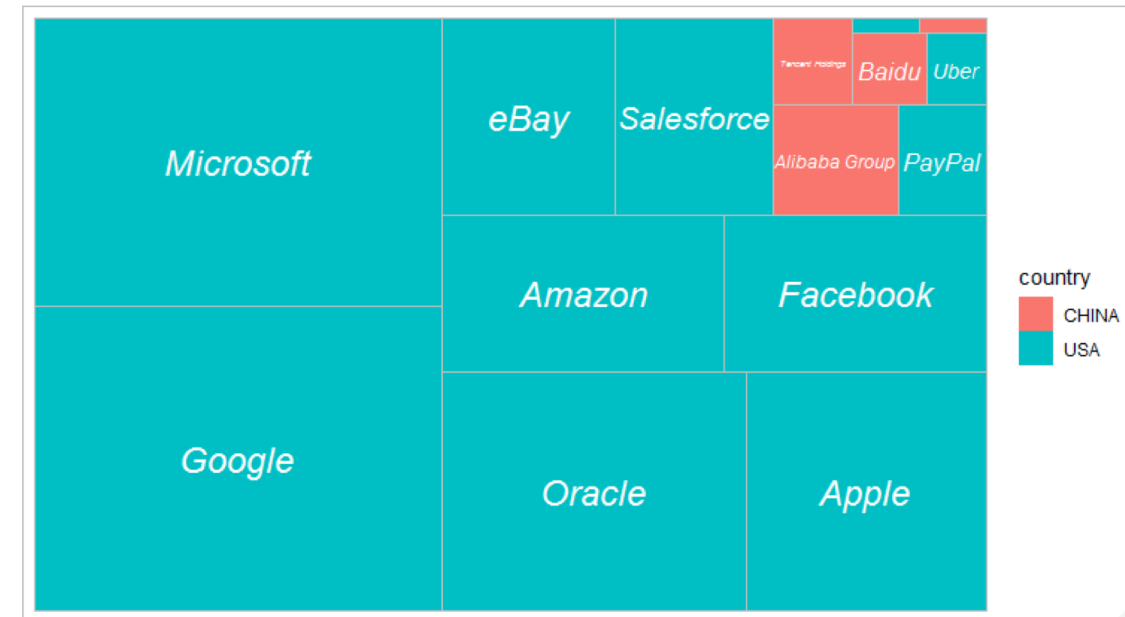# 4. The Major Platforms acquisition behaviour

Major platforms' acquisitiond (US & CHINA)
(numbers)

Data Source: Crunchbase; All acquisitions obtained in 1987-2019.07.

Definitions of AI

Thinking Humanly	Thinking Rationally
"The exciting new effort to make computers think … *machines with minds*, in the full and literal sense." (Haugeland, 1985)	"The study of mental faculties through the use of computational models." (Charniak and McDermott, 1985)
"[The automation of] activities that we associate with human thinking, activities such as decision-making, problem solving, learning …" (Bellman, 1978)	"The study of the computations that make it possible to perceive, reason, and act." (Winston, 1992)
Acting Humanly	**Acting Rationally**
"The art of creating machines that perform functions that require intelligence when performed by people." (Kurzweil, 1990)	"Computational Intelligence is the study of the design of intelligent agents." (Poole *et al.*, 1998)
"The study of how to make computers do things at which, at the moment, people are better." (Rich and Knight, 1991)	"AI …is concerned with intelligent behavior in artifacts." (Nilsson, 1998)

- All inventions belonging to the "Human interface" and "Cognition and meaning understanding" categories listed in the 2017 OECD ICT taxonomy (see Inaba and Squicciarini, 2017) are here considered as being AI-related.

Reference: Russell, Stuart J.; Norvig, Peter (2009). *Artificial Intelligence: A Modern Approach* (3rd ed.). Upper Saddle River, New Jersey: Prentice Hall. ISBN 978-0-13-604259-4.

4. The Major Platforms acquisition behaviour

Major platform firm's acquired organization categories

Top 10 Acquired Organization Categories

Acquired Organization Categories	Freq
Software	349
Mobile	148
Enterprise Software	142
Internet	136
Information Technology	118
E-Commerce	103
Analytics	65
Artificial Intelligence	65
Machine Learning	57
Advertising	55

Artificial intelligence, Machine Learning, Business Intelligence, Predictive Analytics, Natural Language Processing, Intelligent Systems, Image Recognition, Big Data ➤ **AI**
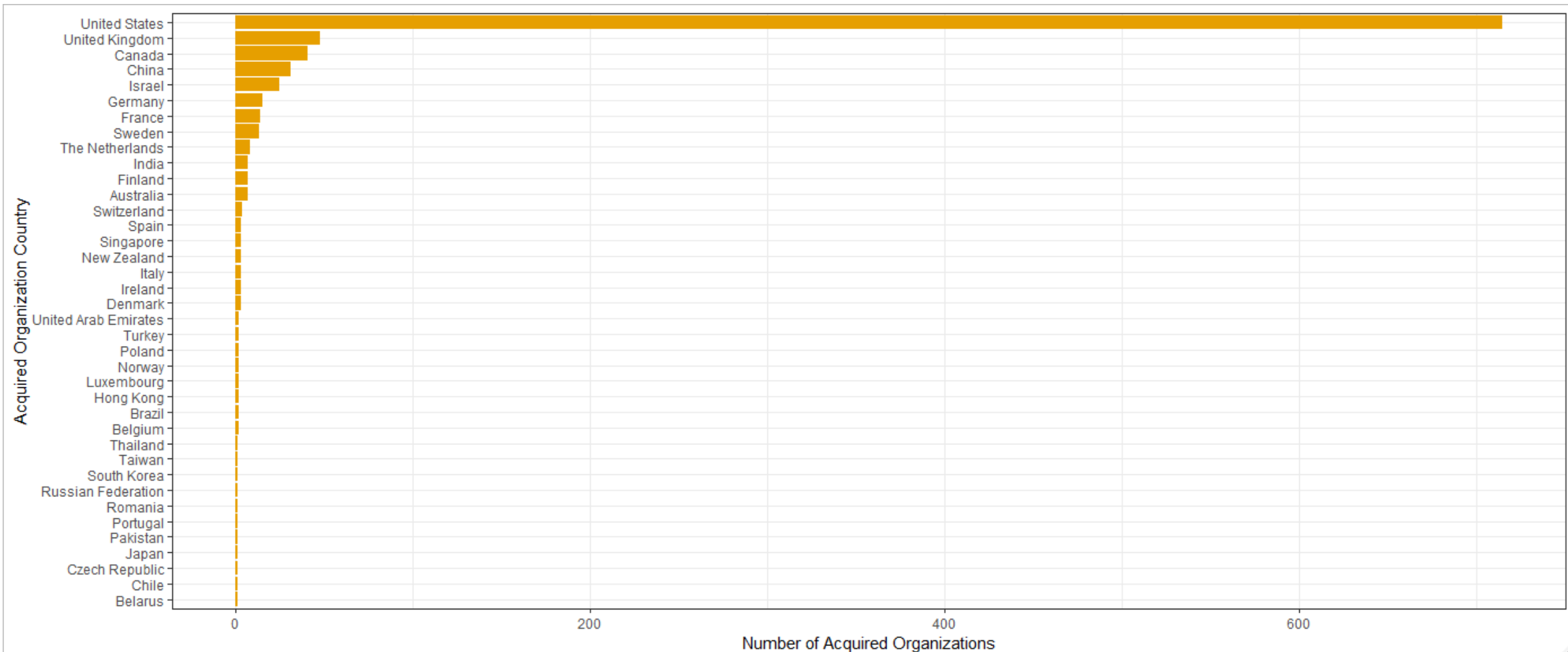
Major platform firm's acquisition (time-series
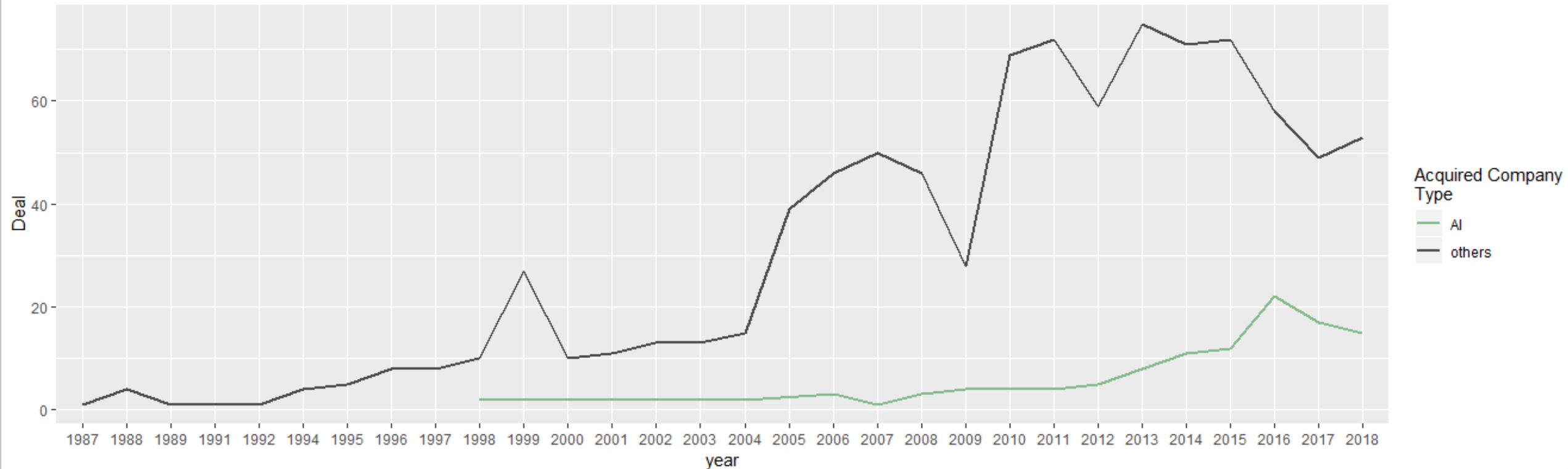
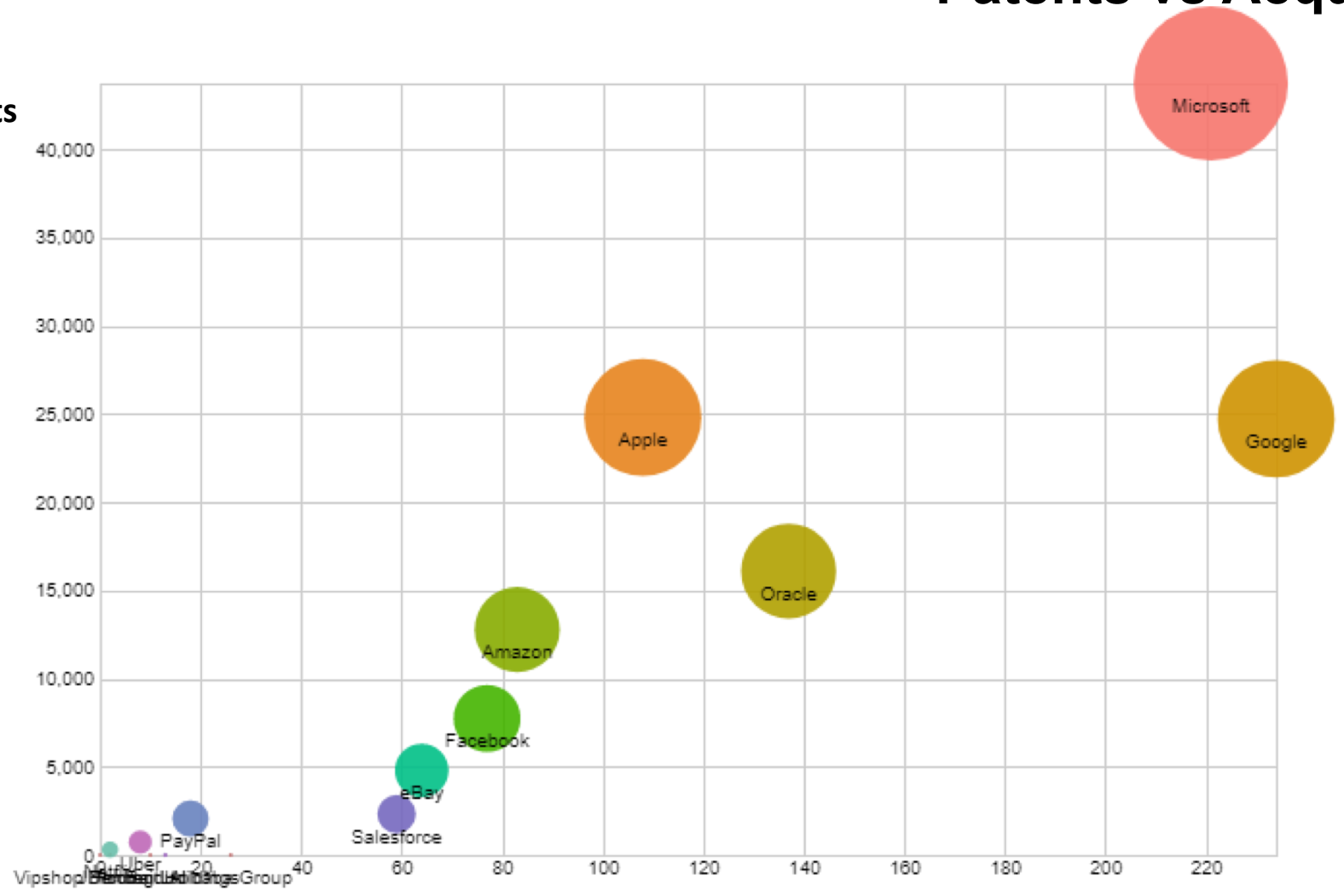Data Source: Crunchbase; All acquisitions obtained in 1987-2018.

Major platforms' acquired organization's location

Data Source: Crunchbase; All acquisitions obtained in 1987-2019.07

Number of Patents (USPTO)

40,000

35,000

30,000

25,000

20,000

15,000

10,000

5,000

0

Microsoft

Apple

Google

Oracle

Amazon

Facebook

eBay

PayPal

Salesforce

Uber

Vipshop Holding Alibaba Group

20   40   60   80   100   120   140   160   180   200   220

Number of Acquisitions

Source: Crunchbase, retrieved July 2019

Major platform firm's acquisition (AI & others)
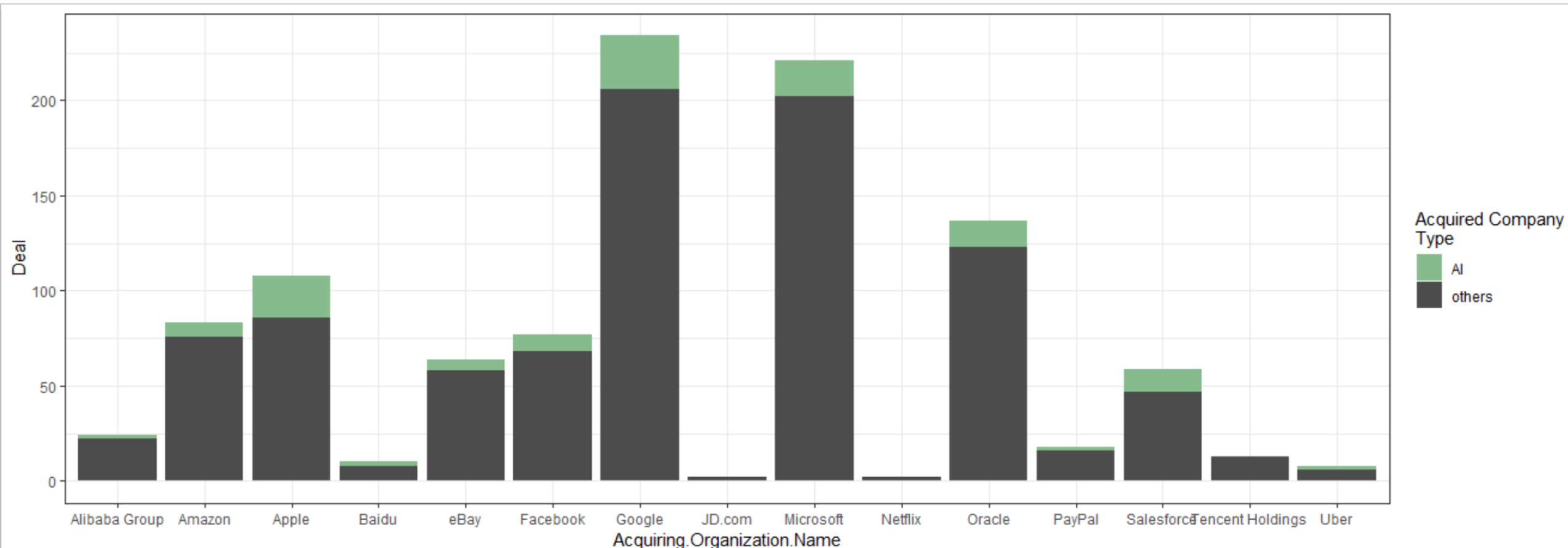
Data Source: Crunchbase; All acquisitions obtained in 1987-2019.07.

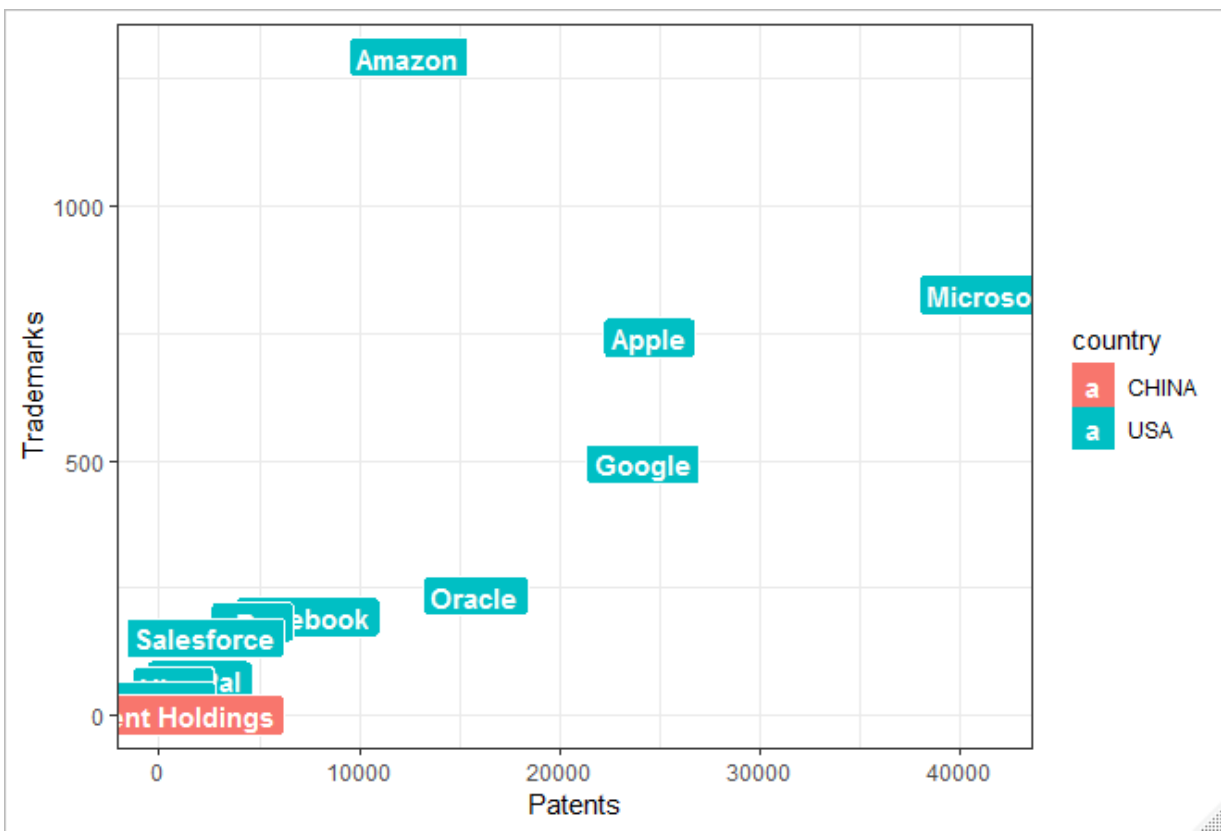## Major platform firm's acquisition (prominence)

Crunchbase Rank measures **the prominence of an entity**. The Crunchbase Rank algorithm takes into account the number of connections of a profile within the platform, the amount of community engagement, funding events, news articles, acquisitions, and more.

The higher the Rank, the more influential the profile is compared to its peers. The lower the Rank, the less important the profile is to the community.
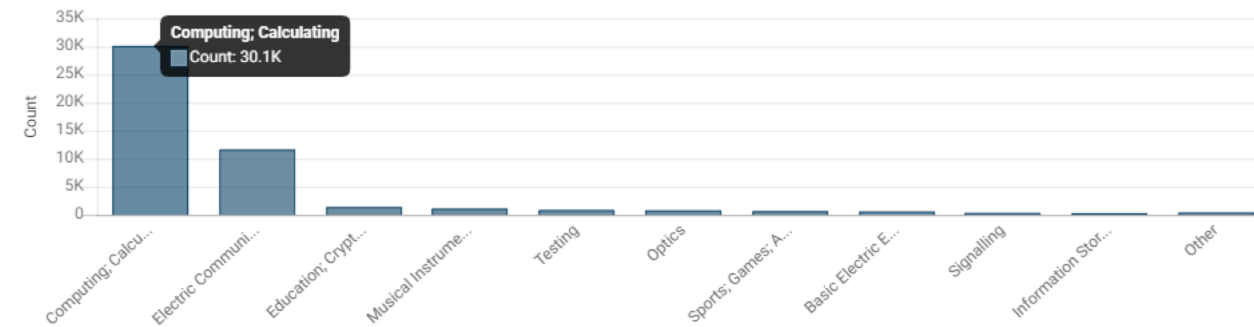

Data Source: Crunchbase; All acquisitions obtained in 1987-2019.07.   - 15th Edition -
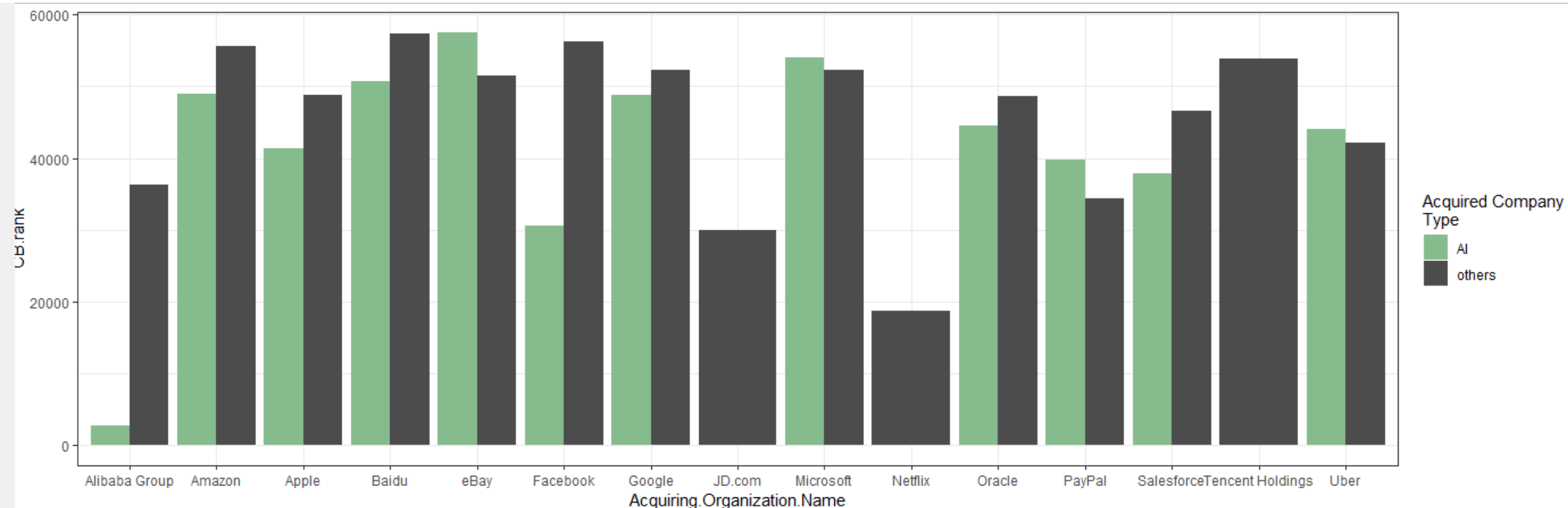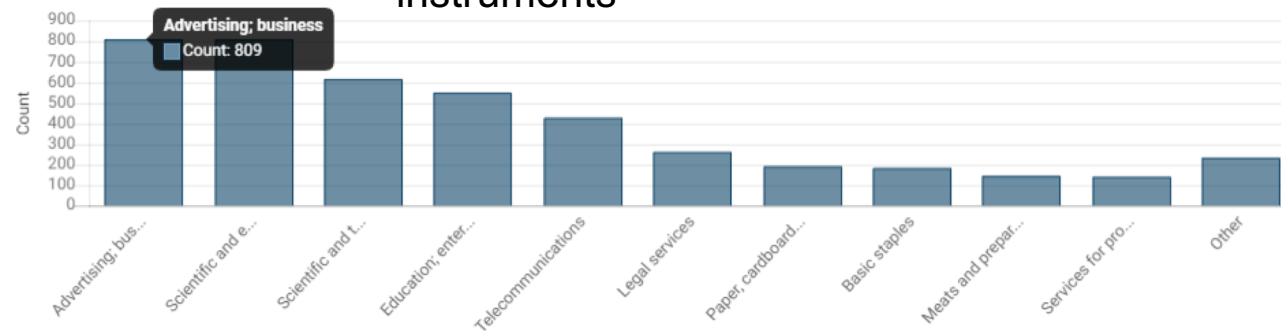
4. The Major Platforms acquisition behaviour

Major platform firm's patents/trademarks

[Patents]
Computing; Calculating

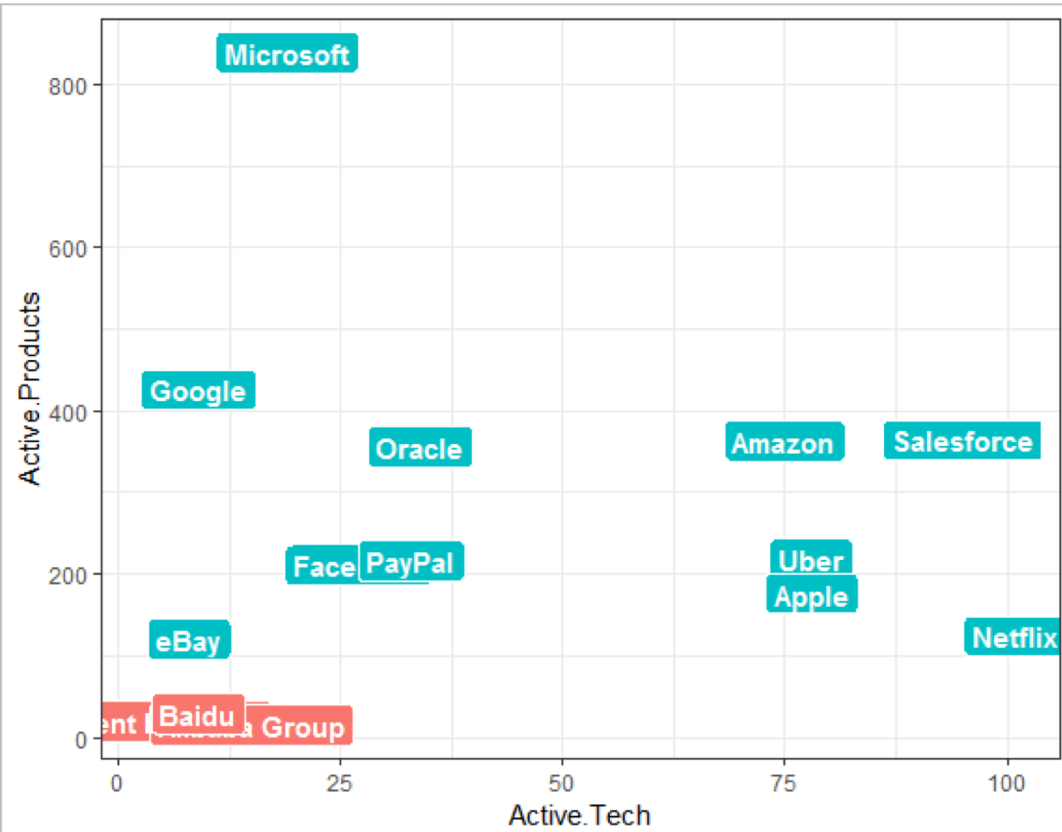**[Trademarks]**
Scientific and electric apparatus and instruments

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Major platform firm's products/techn

Microsoft

Products	Category	# of Customers
Google Analytics	Analytics & Business Intelligence	200,769
WordPress	Content Management System (CMS)	117,208
Vimeo	Content Management System (CMS)	100,650
Google Tag Manager	Digital Marketing	93,004
PHP	Languages and Frameworks	90,097
nginx	Hosting	77,421
Bootstrap	Software Development	75,153
Microsoft Outlook	Email Hosting and Tools	61,125
Microsoft Office 365	Productivity	59,553
Google Maps	Software Development	58,202

NETFLIX

Technology	Category	# of Customers
Viewport Meta	Mobile	418,741
IPhone / Mobile Compatible	Mobile	402,332
SSL by Default	SSL	279,888
Google Font API	Widgets	268,772
Google Universal Analytics	Analytics	216,829
Content Delivery Network	CDN	199,500
Apple Mobile Web Clips Icon	Mobile	195,480
Font Awesome	Widgets	180,886
Mobile Non Scaleable Content	Mobile	150,852
nginx	Web Server	144,857

Data Source: Crunchbase [Shiftery & BuiltWith]

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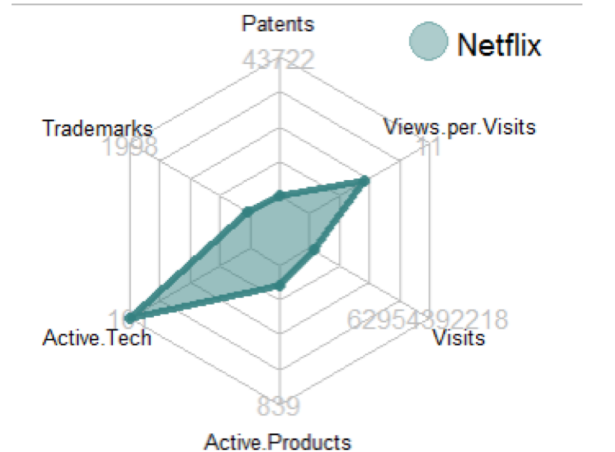The World Conference on Intellectual Capital for Communities
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4. The Major Platforms acquisition behaviour

Major platform firms' IT spending

Data Source: Crunchbase; USD

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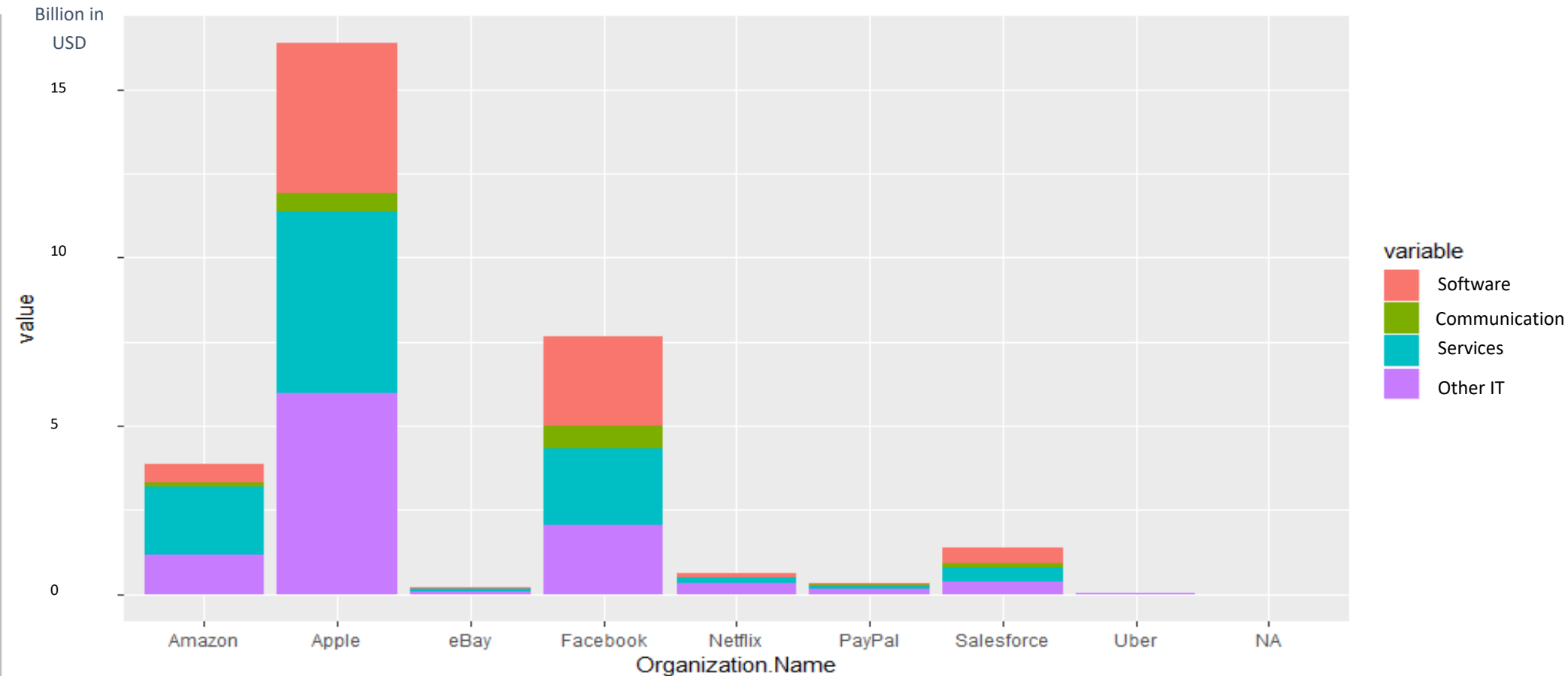
The Major platforms Profiles
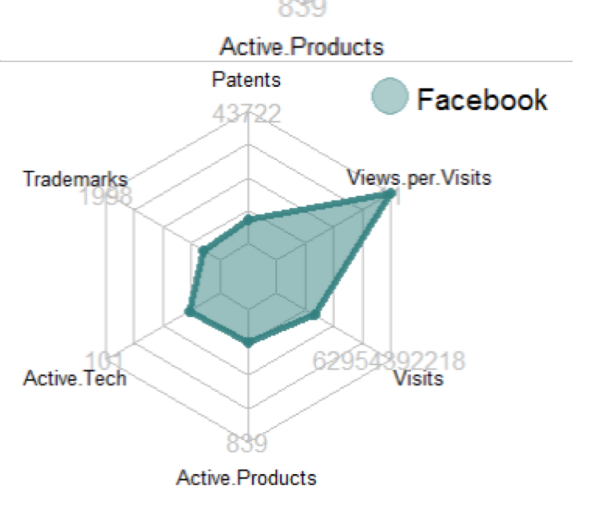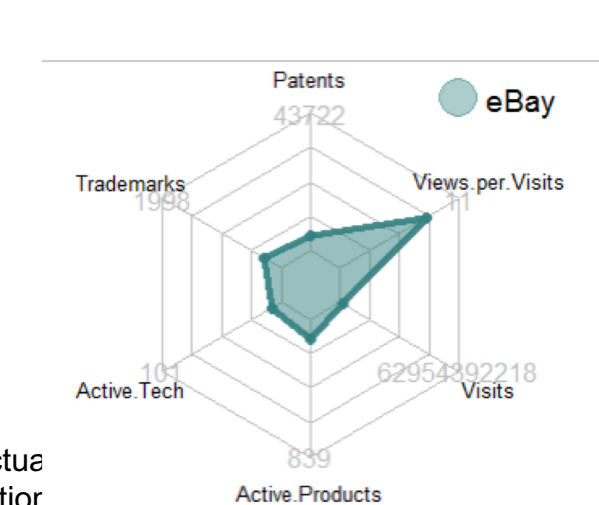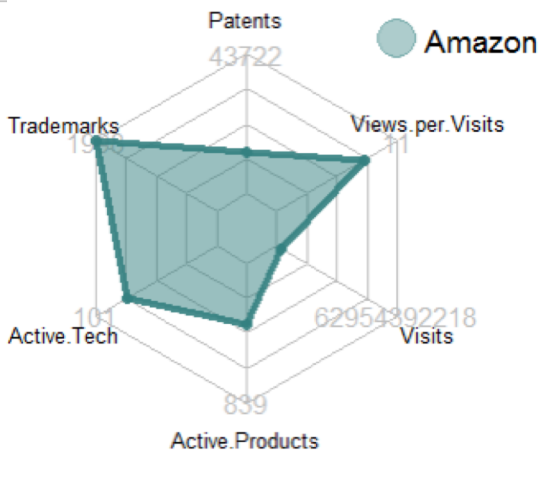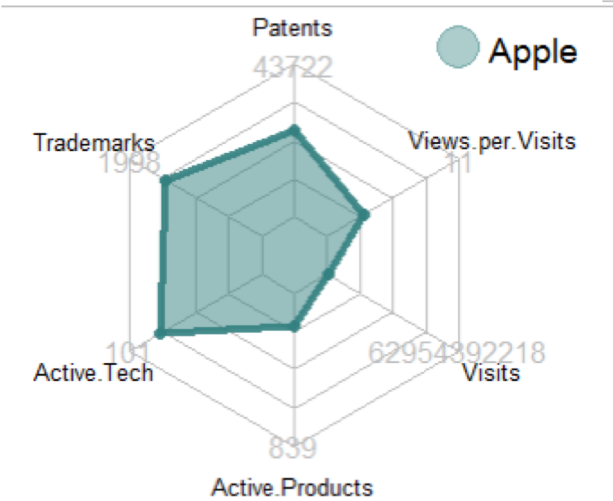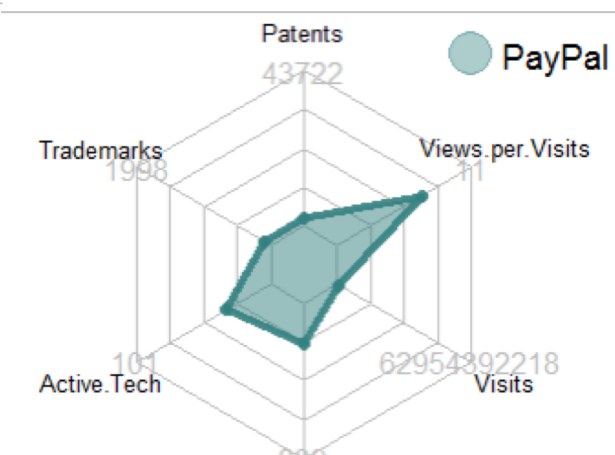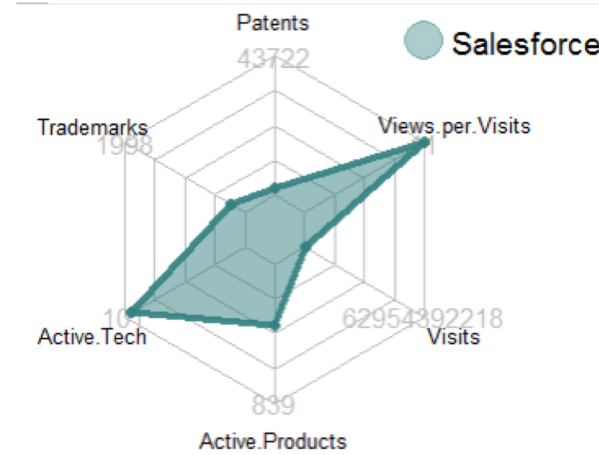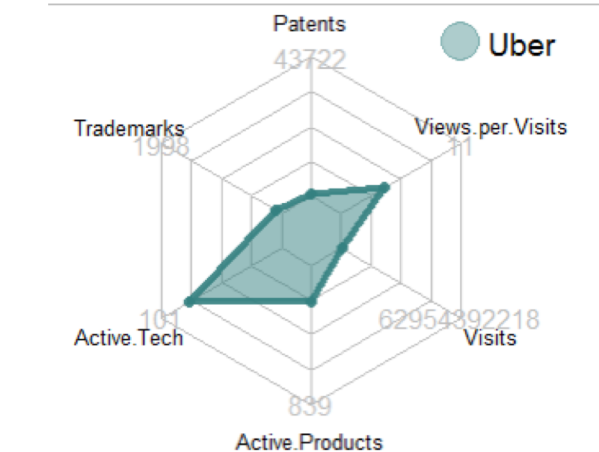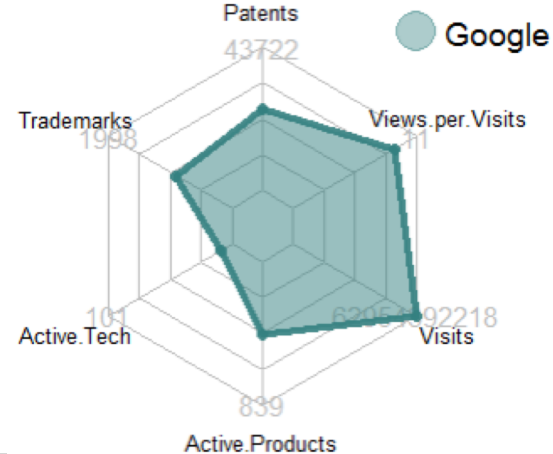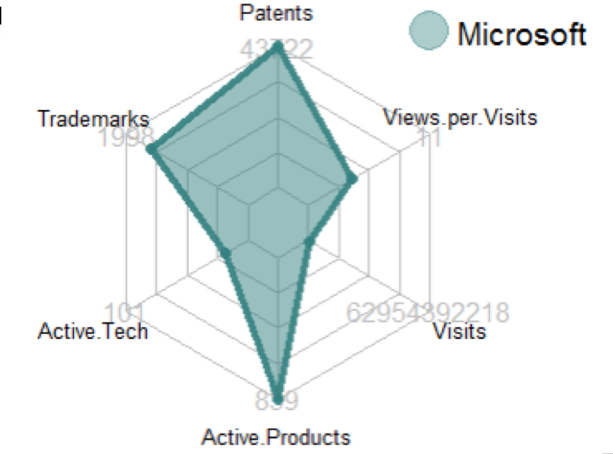
Interim conclusion

- Studying platforms behaviour with regards to intangible resources is a further step to the research and policy agenda on platforms

- Intangibles resources analysis allow to complete the dualistic approach to the two-sided market

- Looking at the way Major platforms invest externally is an important task in delinealing their strategies

- Further research is needed, per country (China) and region, especially in relationship to competition and innovation policies

Thank you

Ahmed.bounfour@u-psud.fr