



# Fintech in Brief

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CEO, Thai Fintech Association  
12 July 2018





# Agenda

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## 1) Introduction – Business Model is Changing

- Value of Investment in Fintech
- Challenger Banks
- Cashless Societies

## 2) Big Data, IoT and AI

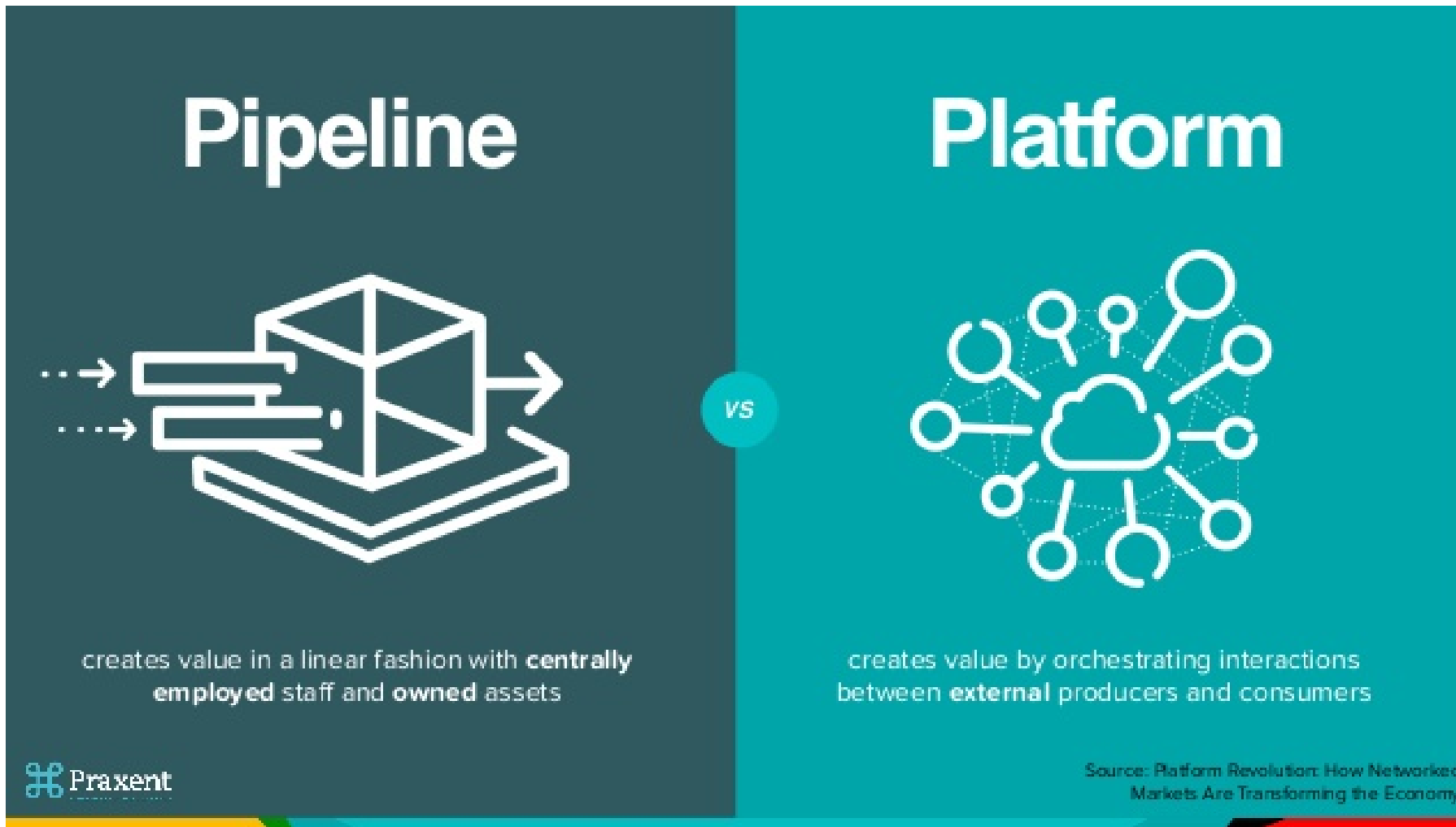
## 3) Investment and Wealth Management

- Trends – Social Trading & Robo-Advisor
- Passive Investment

## 4) Thai Fintech Association



# New Business Model - Platform



amazon

UBER



YouTube

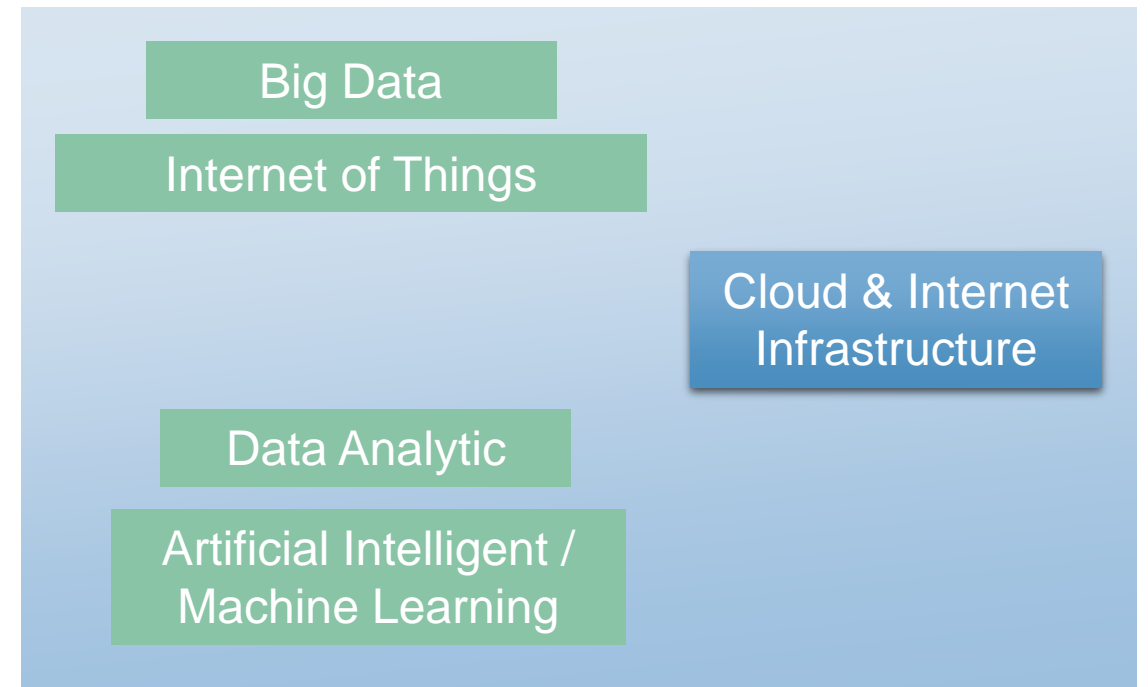
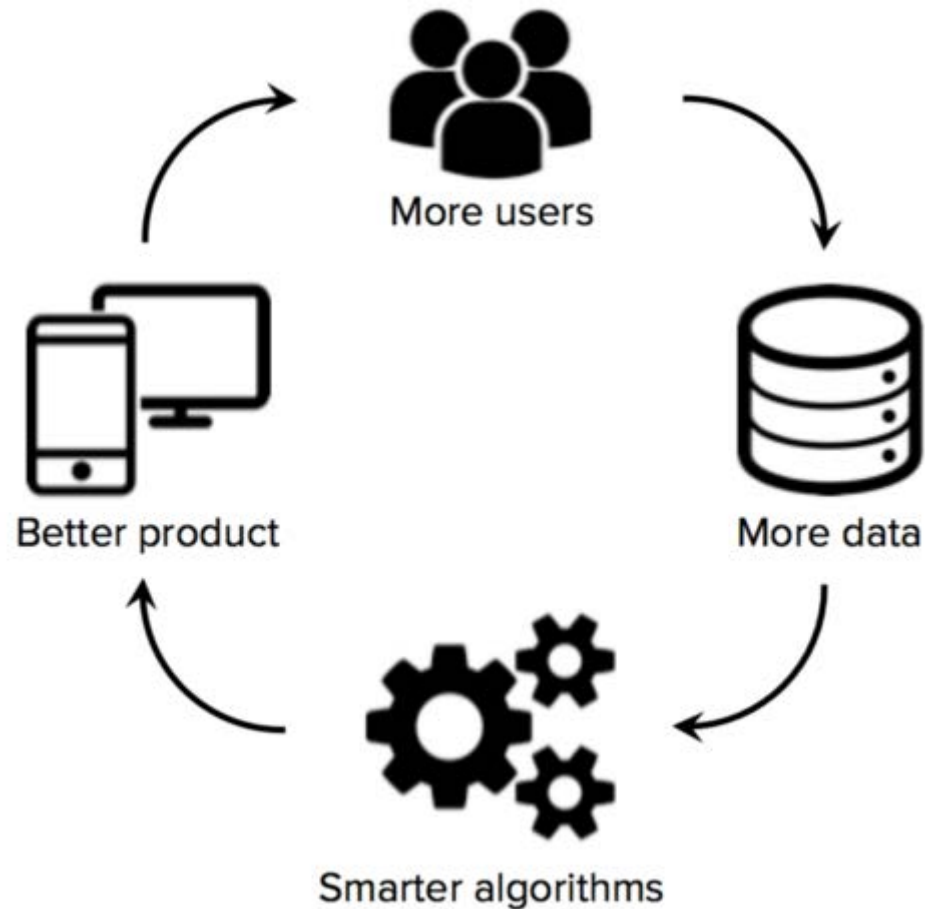
Revolut

STARLING BANK

N 26



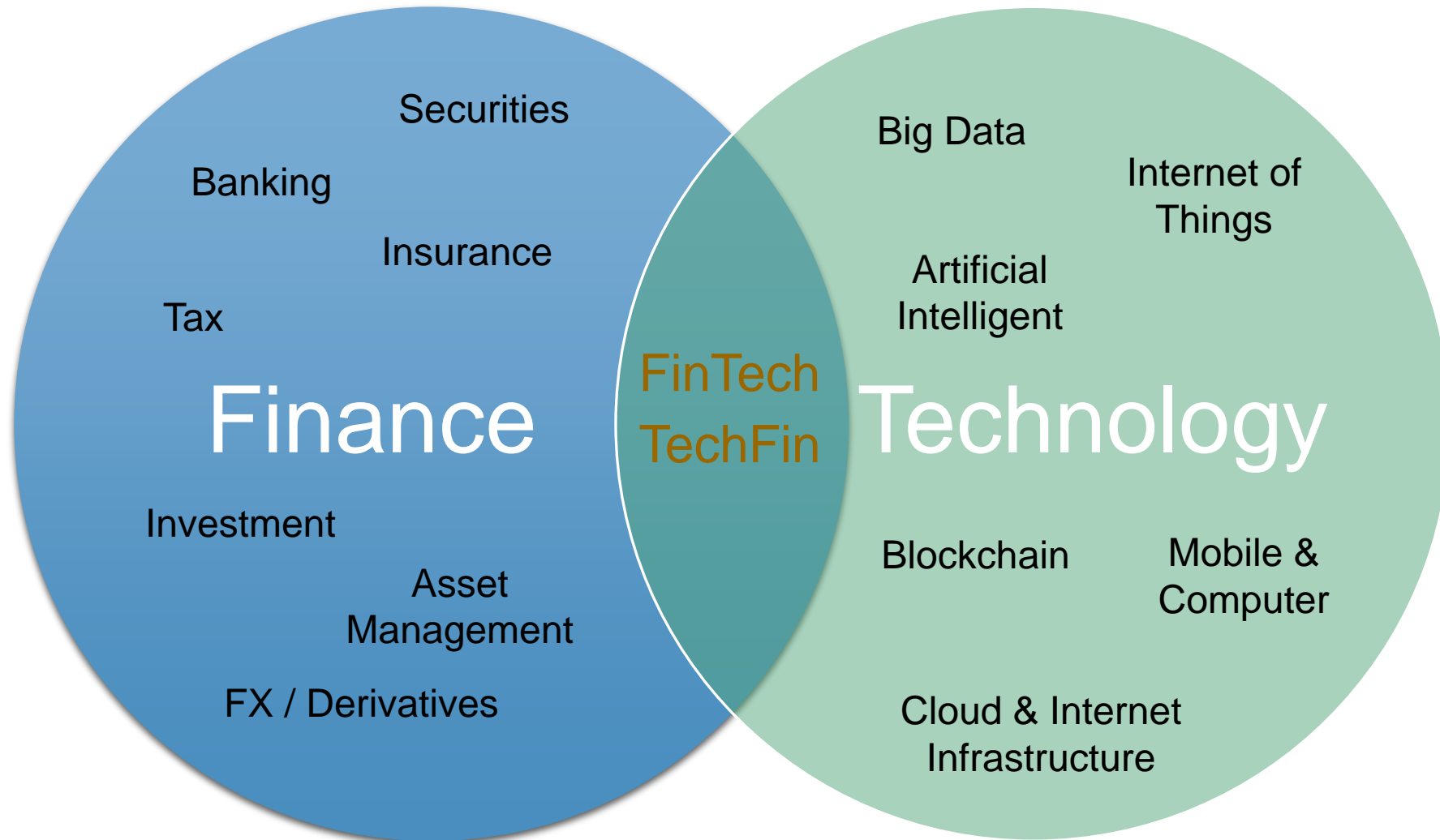
# New Business Model – Platform: Data Network Effects





# What is FinTech?

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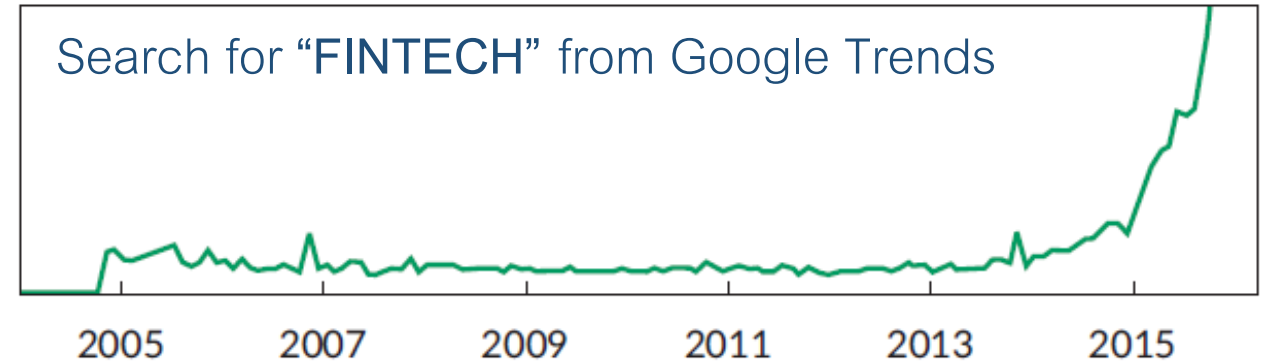




# What is FinTech?

FinTech = Finance + Technology

*“A rapidly developing evolutionary process across financial services”*



FinTech (its by-products) are all around us, some examples



ATM

Cards



Mobile Banking

What next?

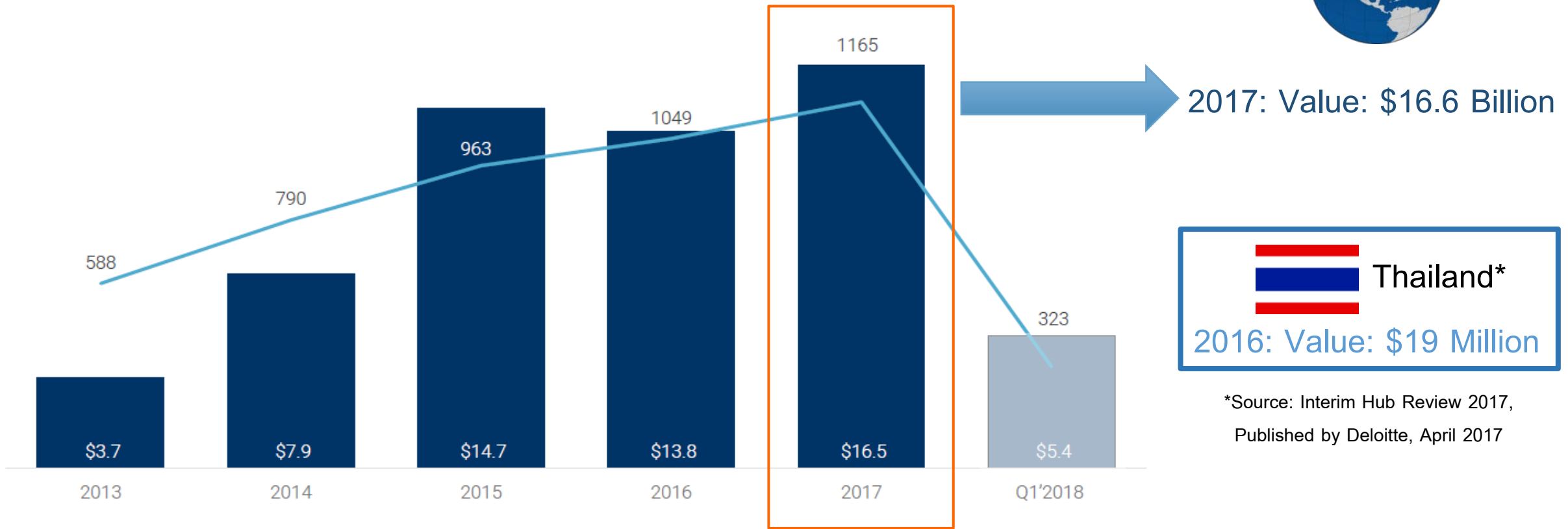




# Value of Fintech Investment: Global and Thailand

## Global fintech investment on pace for new high

Annual VC-backed global fintech deals and financing, 2013 – 2018 (Q1'18), (\$B)

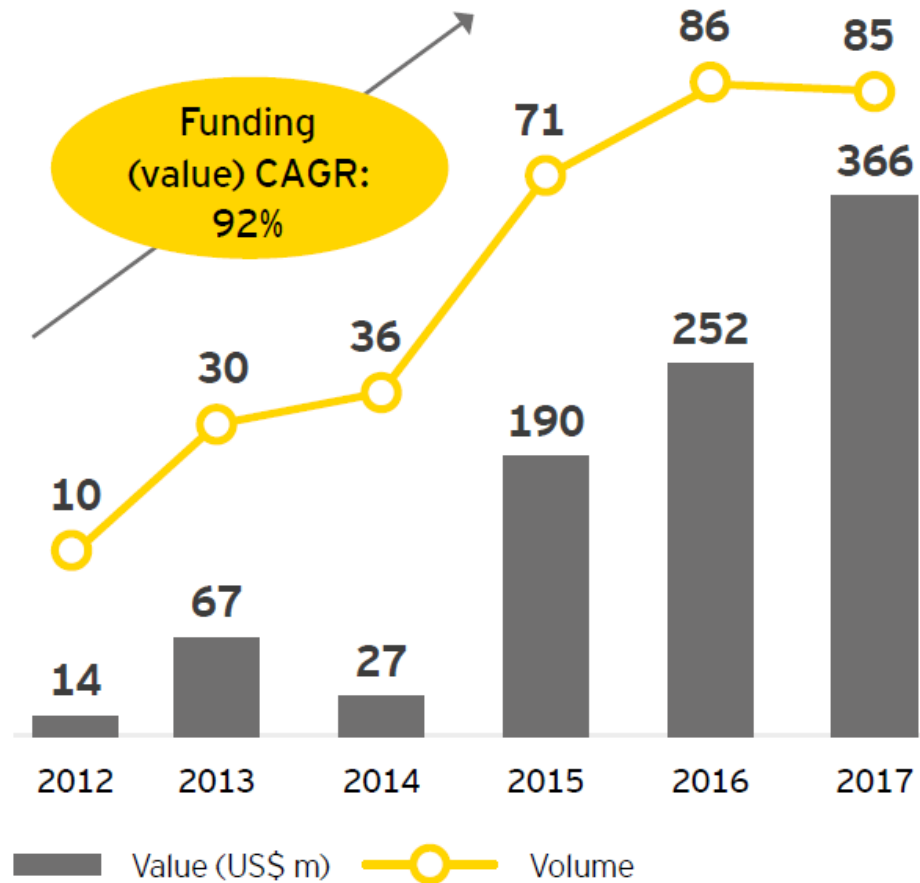


\*Source: Interim Hub Review 2017,  
Published by Deloitte, April 2017

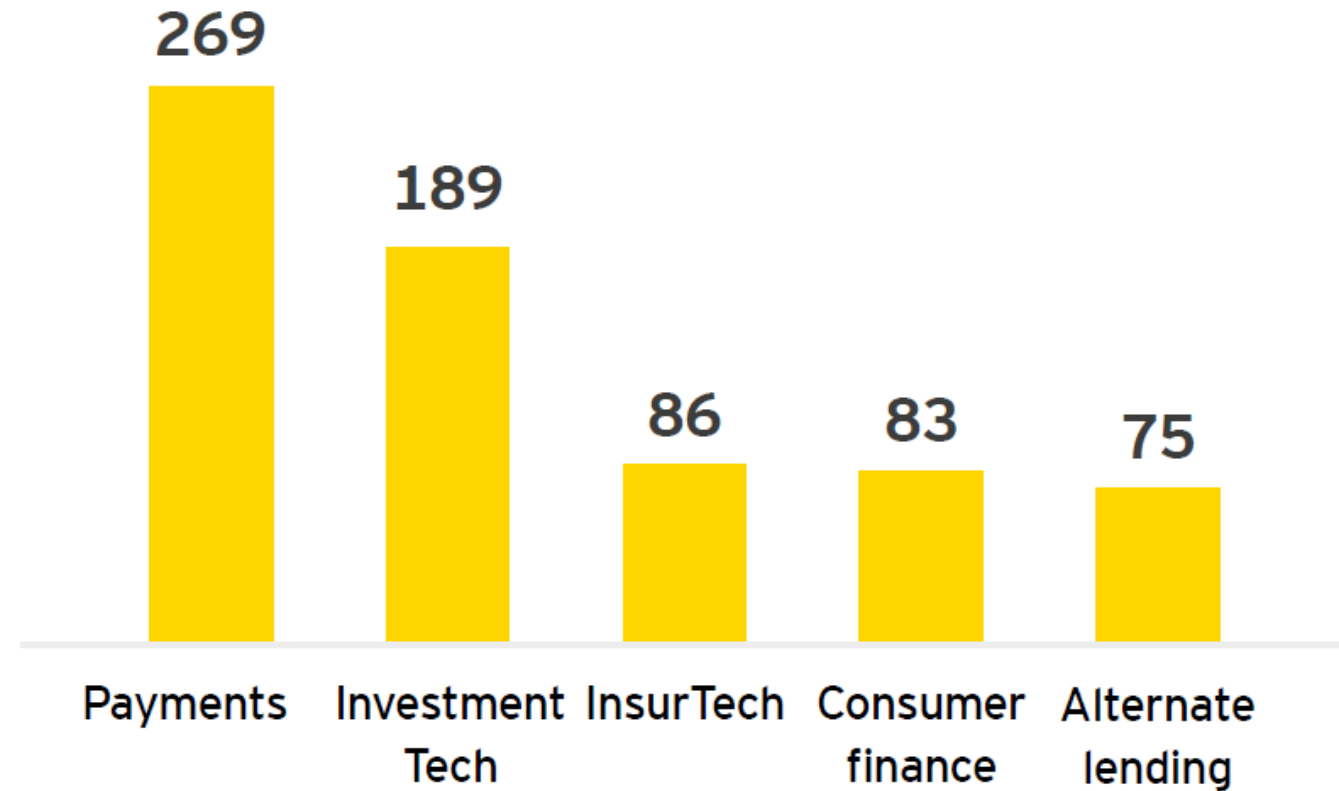


# ASEAN

## FinTech funding trend in Asean



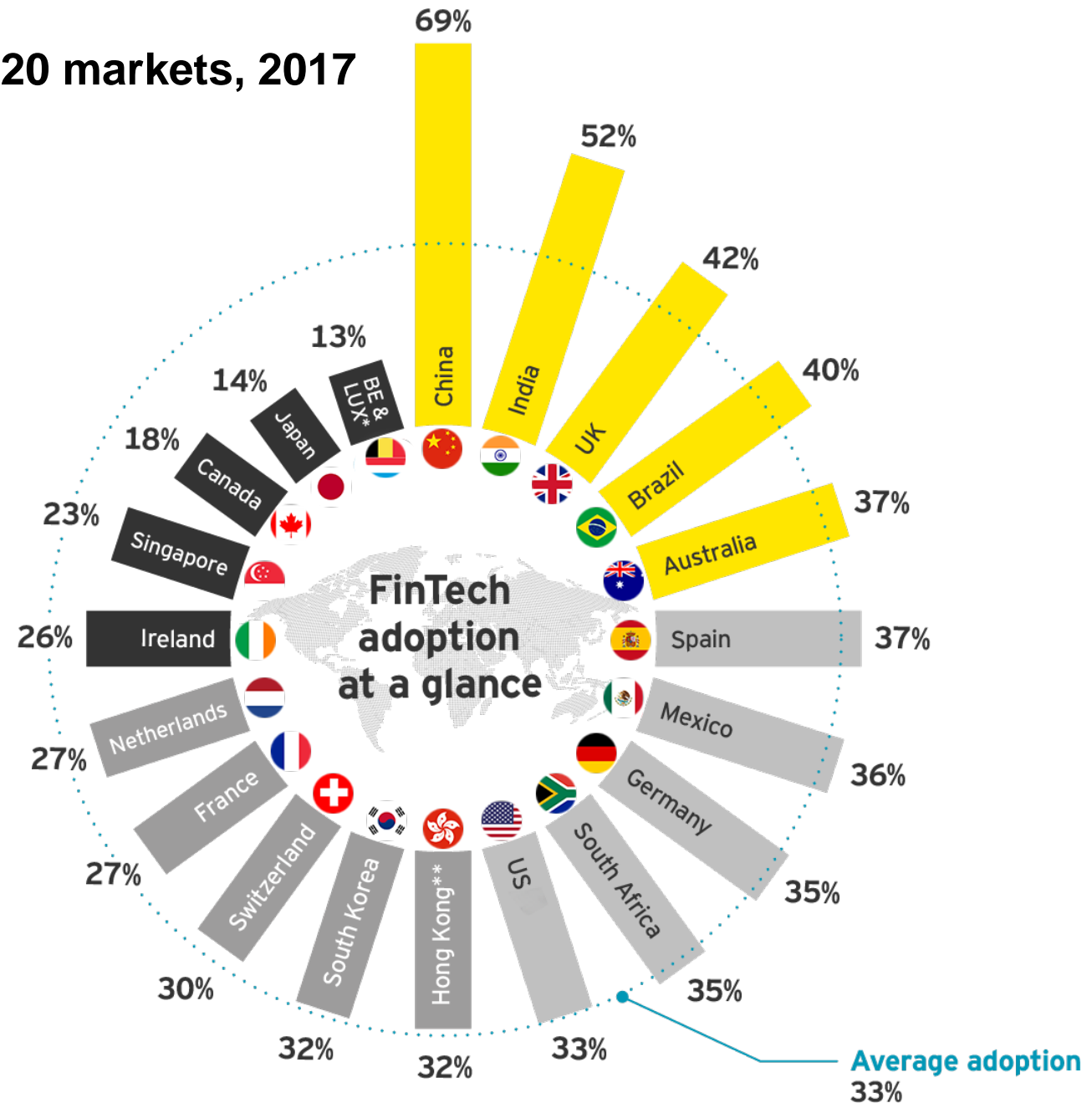
## Cumulative investments in top 5 sub-sectors in South-East Asia (in US\$M)





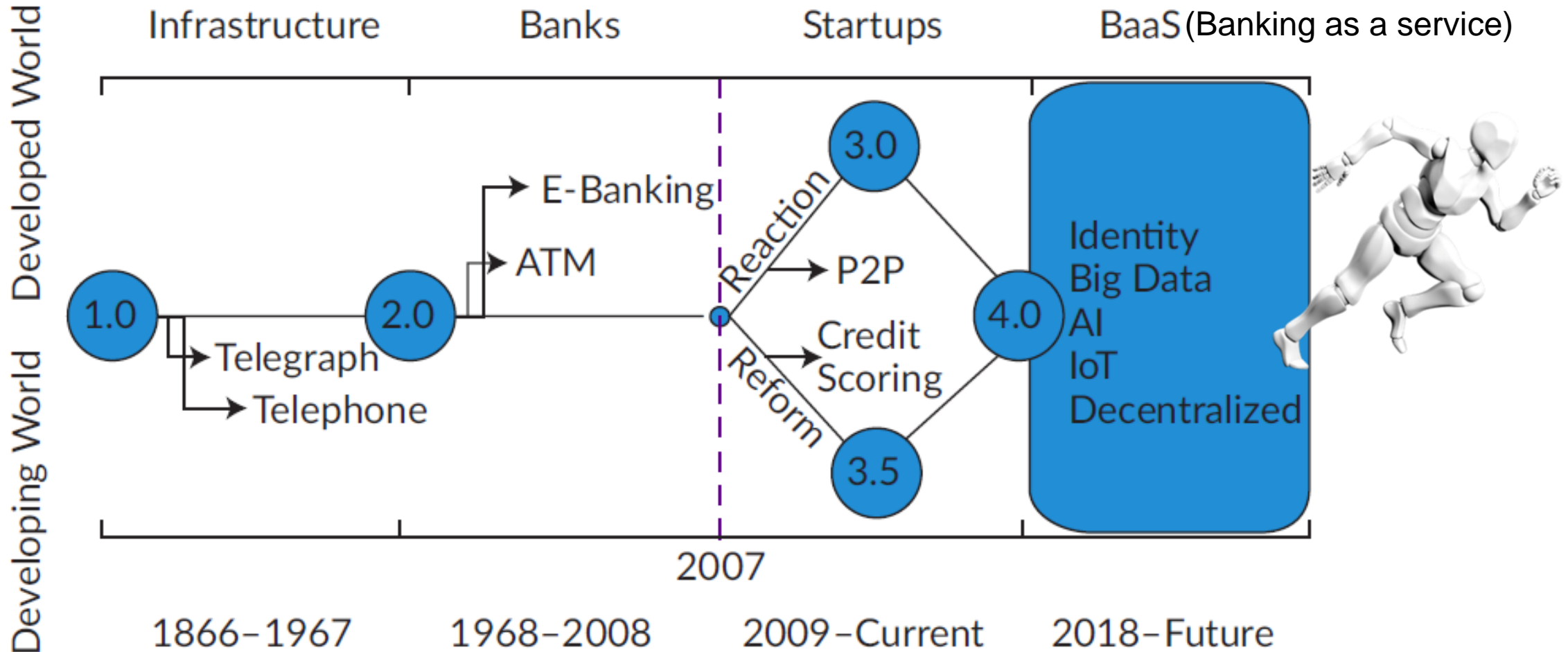
## EY: FinTech adoption rates across 20 markets, 2017

Notes: The figures show FinTech users as a percentage of the digitally active population. All figures shown in percentages.






# FinTech Eras







*Bill Gates*

**BANKING IS  
NECESSARY.**

**BANKS ARE  
NOT.**

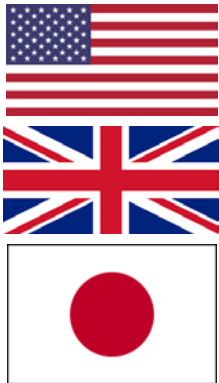
## 4 Functions of Finance

- 1) Payment
- 2) Capital Allocation
- 3) Management of  
household finance
- 4) Control Risks



## Trend – Physical Branches are reducing/smaller

จำนวนสาขานาการพาณิชย์ ปี 2560	
มกราคม 2560	7,004 แห่ง
พฤศจิกายน 2560	6,800 แห่ง
เปลี่ยนแปลง	(-) ลดลง 204 แห่ง
ที่มา: ธนาคารแห่งประเทศไทย	



Last 5 Years, -20% Branches

Last 2 Years, -1,000 Branches

BTMU plans to -20% (next 3 years)

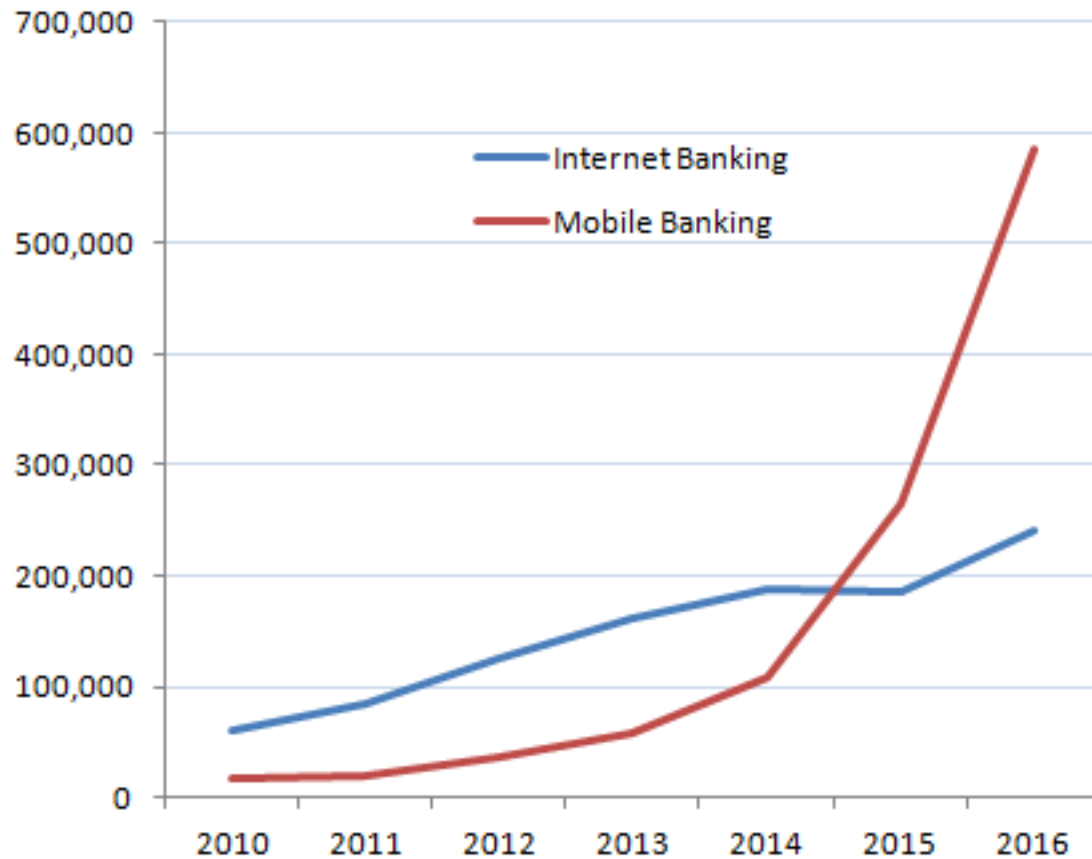
## เปรียบเทียบจำนวนสาขานาการ ปี 2560

ชื่อธนาคาร	จำนวนสาขา ม.ค. 2560	จำนวนสาขา พ.ย. 2560	เปลี่ยนแปลง
กรุงเทพ	1,157	1,165	+ 8
กรุงไทย	1,213	1,122	- 91
กสิกรไทย	1,102	1,028	- 74
ไทยพาณิชย์	1,170	1,170	+ 0
กรุงศรี	659	663	+ 4
ทหารไทย	453	433	- 20
ยูโอบี	153	153	+ 0
ซีไอเอ็มบีไทย	92	87	- 5
รวม	589	530	- 59

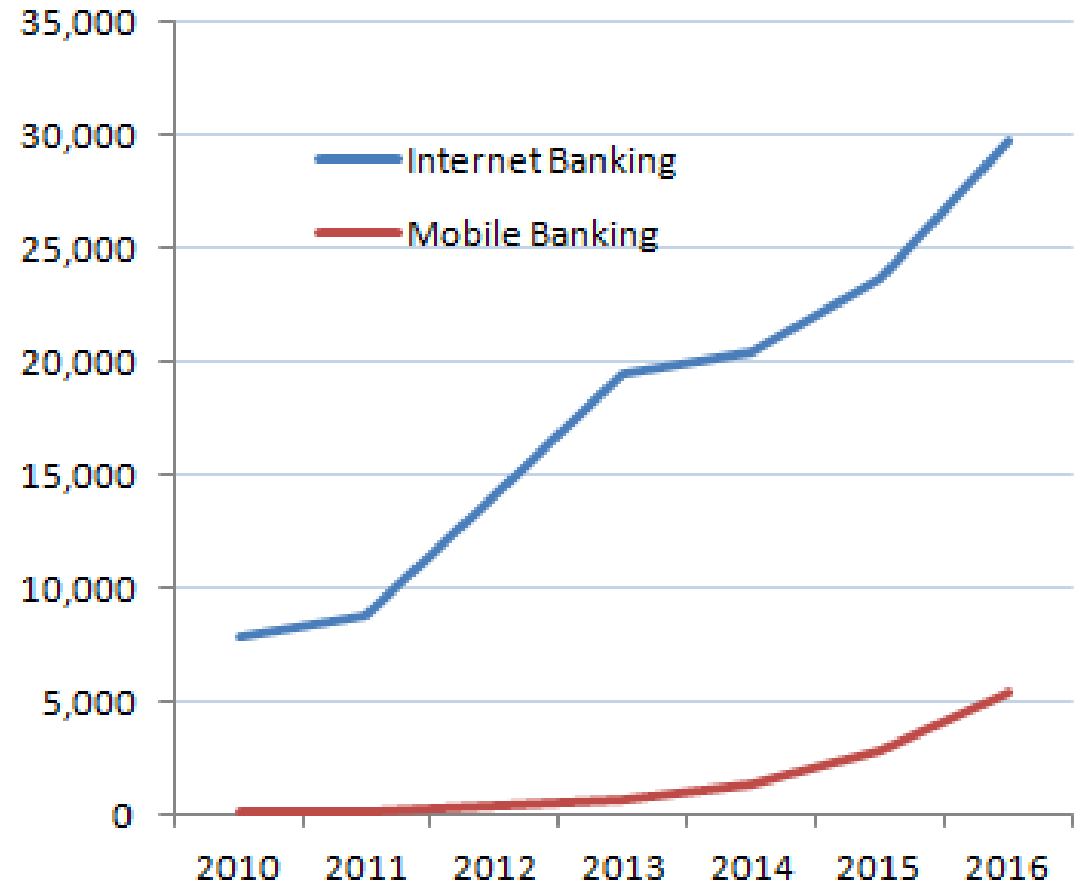


# Trend – Mobile Banking is growing significantly (Thailand)

## Volume of Transactions



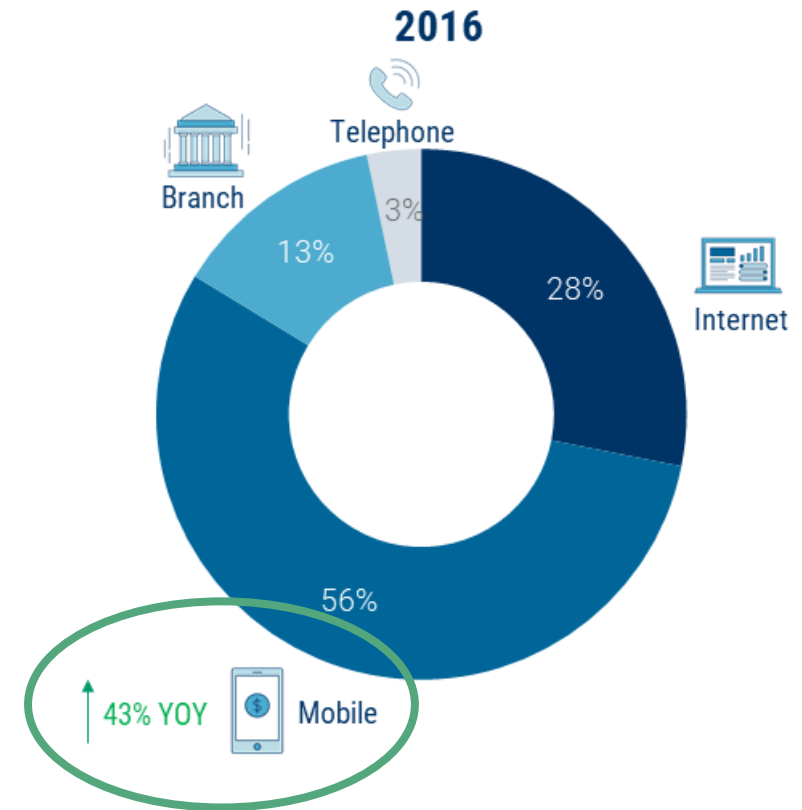
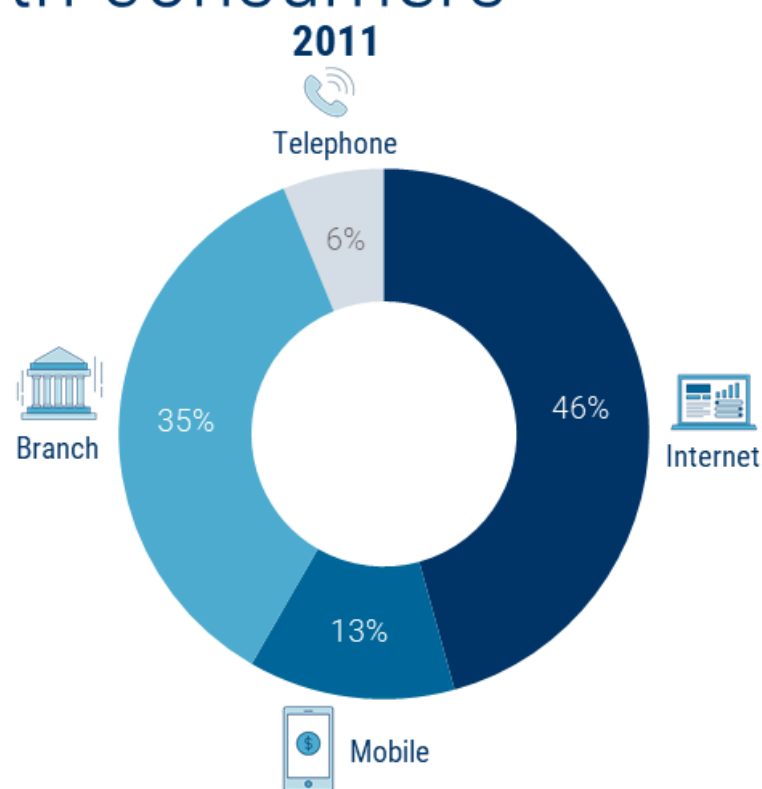
## Value of Transactions (Billions Baht)





## Trend – Challenger Banks

Mobile is the leading platform for retail banking with consumers



CBINSIGHTS

Source: [CACI analysis on UK Banking Trends](#)

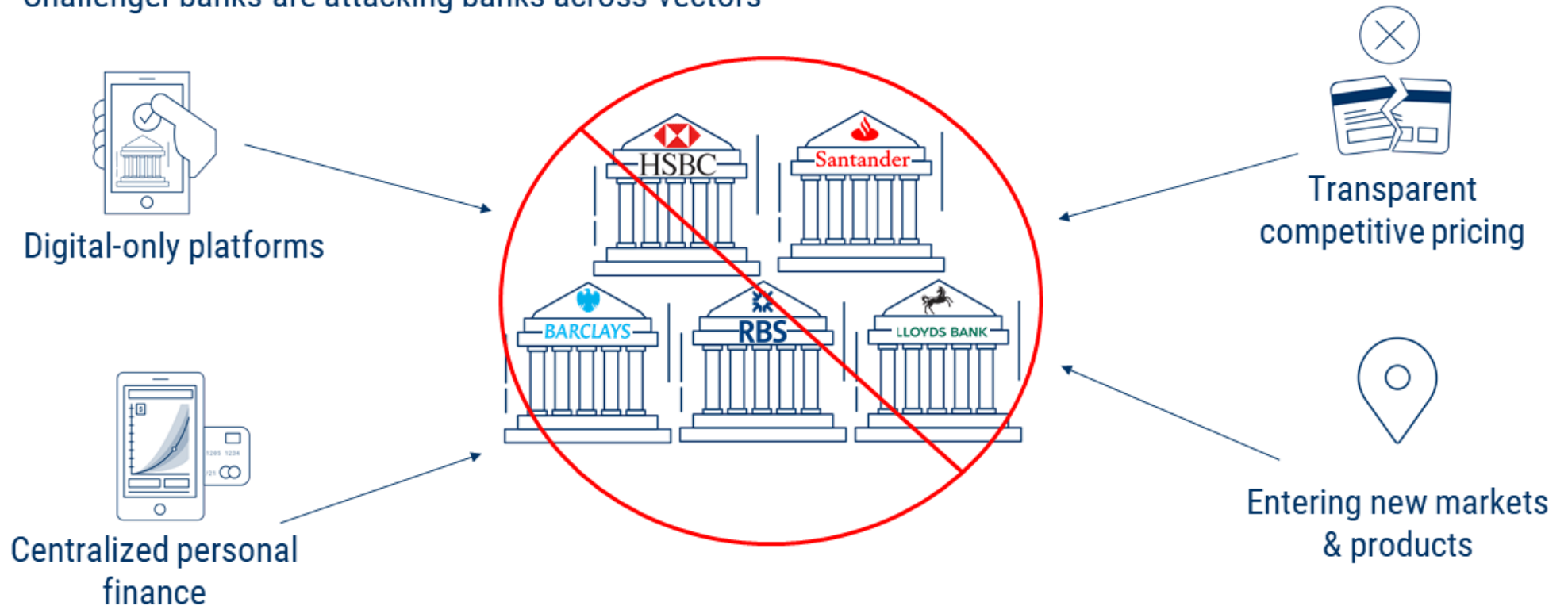


# Trend – Challenger Banks

## THE FUTURE OF RETAIL BANKING

# Will challenger banks replace physical branches?

Challenger banks are attacking banks across vectors



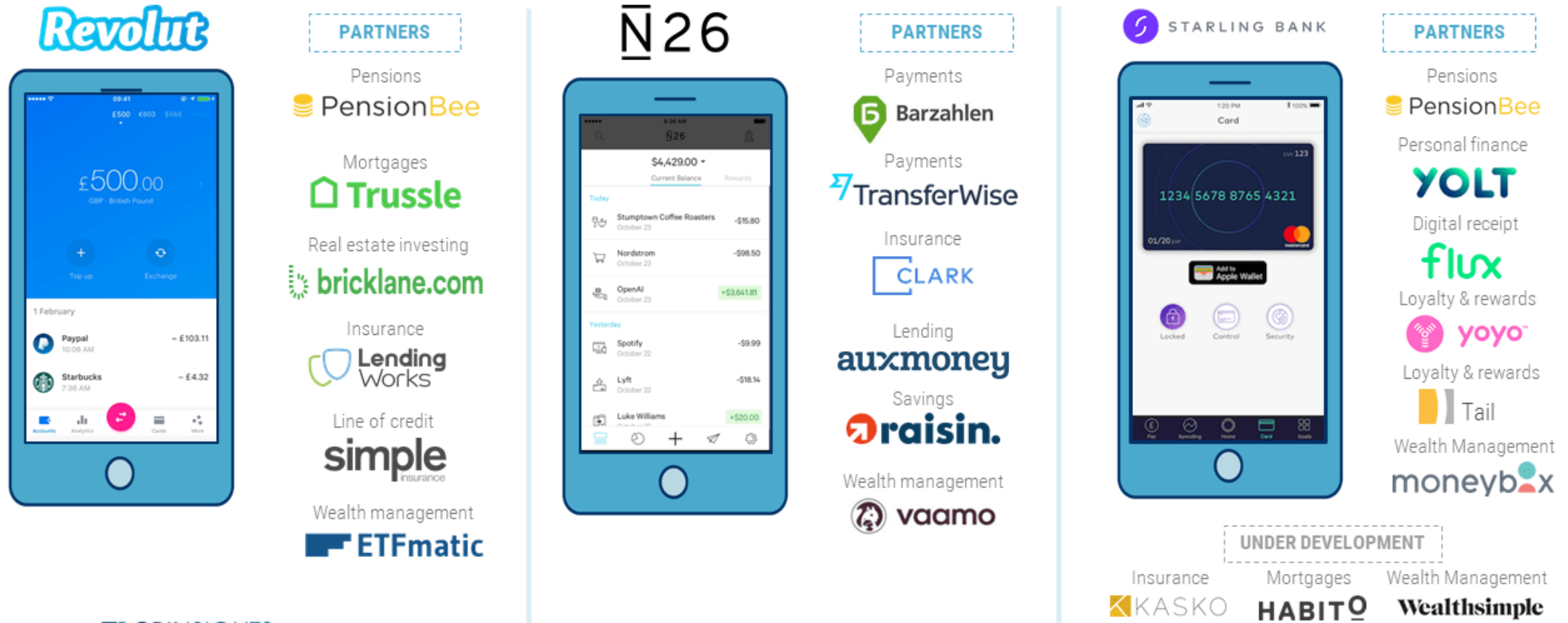
CBINSIGHTS



# Trend – Challenger Banks

## Challenger banks add fintech partnerships to grow

APIs and enabled integrations are a cheaper faster way to launch products and acquire customers



CBINSIGHTS



# MEET THE WORLD'S RICHEST MAN

## JEFF BEZOS

Age : 53

Nationality : American

### Quick Facts :

Estimated net worth \$90.6 billion

Received Silver Knight Award from University of Florida during high school

Graduated from Princeton University

Founded Amazon.com in 1994

Founded Blue Origin, a human spaceflight company, in 2000

Purchased The Washington Post in 2013

### Jeff Bezos Empire:

Amazon.com

Blue Origin

Washington Post

Bezos Expedition (venture capital firm)

### Assets:

Owns 17% of Amazon.com, valued at \$83.9 billion purchased

Washington Post for \$250 million in cash through Bezos

expeditions, has funded Uber, Airbnb, Behance, Twitter and Business Insider

NEWSMOBILE





# Amazon gets more aggressive in fintech – outside of the US

## INDIA



In India, Amazon is rolling out doorstep cash pickup to allow users to load money into its digital payment wallet Amazon Pay. The service allows users to top up their balance using cash for digital services including food delivery, bill payment, and mobile recharges.

## MEXICO

amazoncash



La forma más sencilla y sin comisiones de pagar con efectivo en Amazon

### Cómo funciona

1. Obtén tu código de barras utilizando el botón de abajo
2. Visita un establecimiento participante
3. Deposita entre \$100 y \$5,000 pesos
4. Tus fondos están disponibles al instante para comprar

Obtén tu código de barras

Todos los establecimientos participantes

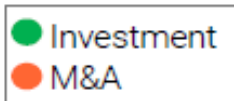
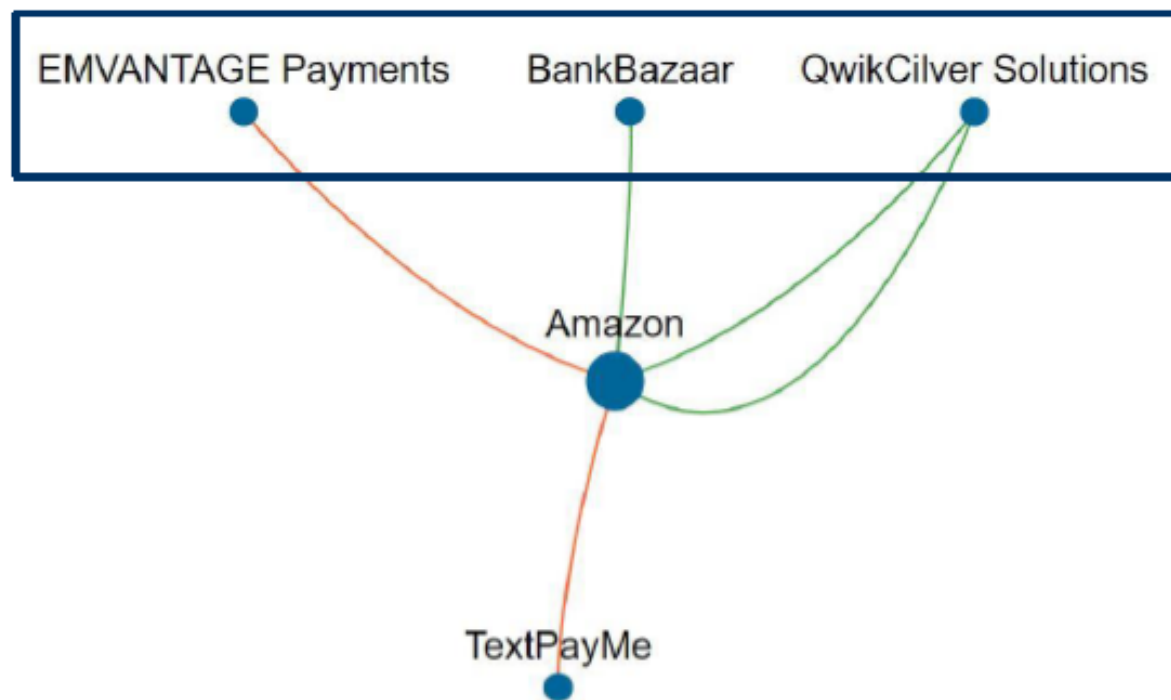


In Mexico, Amazon launched a cash payment service to attract customers online and give shoppers an alternative to credit and debit cards.



## AMAZONS' FINTECH INVESTMENT & M&A

India



## AMAZON IN THE NEWS

Amazon in talks to invest in Indian digital lending startup Capital Float  
December 18, 2017 | **THE ECONOMIC TIMES**

Amazon close to investing in Indian online insurance startup Acko  
January 2, 2018 |  **THE TIMES OF INDIA**





## All the ways Amazon is unbundling the bank





蚂蚁金服旗下品牌



蚂蚁金服  
ANT FINANCIAL



Online  
Payment

Wealth  
Management

Digital  
Challenger  
Bank

Credit  
Scoring

Cloud  
Computing



Ranking	Banking Group	Market Capitalisation (USD bn)
1	JP Morgan	388
2	ICBC	330
3	Bank of America	315
4	China Construction Bank	270
5	Wells Fargo	268
6	HSBC	198
7	Agricultural Bank of China	200
8	Citi	183
9	Bank of China	180
<b>10</b>	<b>Ant Financial</b>	<b>150</b>
11	China Merchant Bank	122
12	Royal Bank of Canada	114
13	Santander	100
14	BNP Paribas	90
15	Goldman Sachs	91
16	Sberbank	84
17	Unicredit	50
18	Barclays	47





# THE WORLD'S MOST CASHLESS COUNTRIES



Cashless payments are the future, according to experts who believe cashless societies may exist as soon as 2022. We wanted to see which countries are ahead of the trend in embracing cashless culture. Whether it's cards, contactless or mobile payments, these are the countries that are getting ready for a cashless world.



# Trend – Cashless Society

Using the 6 metrics below we calculated a score out of 10 for each country



**Amount of Credit  
Cards per Person**



**Amount of Debit  
Cards per Person**



**Cards in Issue with  
Contactless Functionality**



**Growth of Cashless  
Payments over 5 Years**



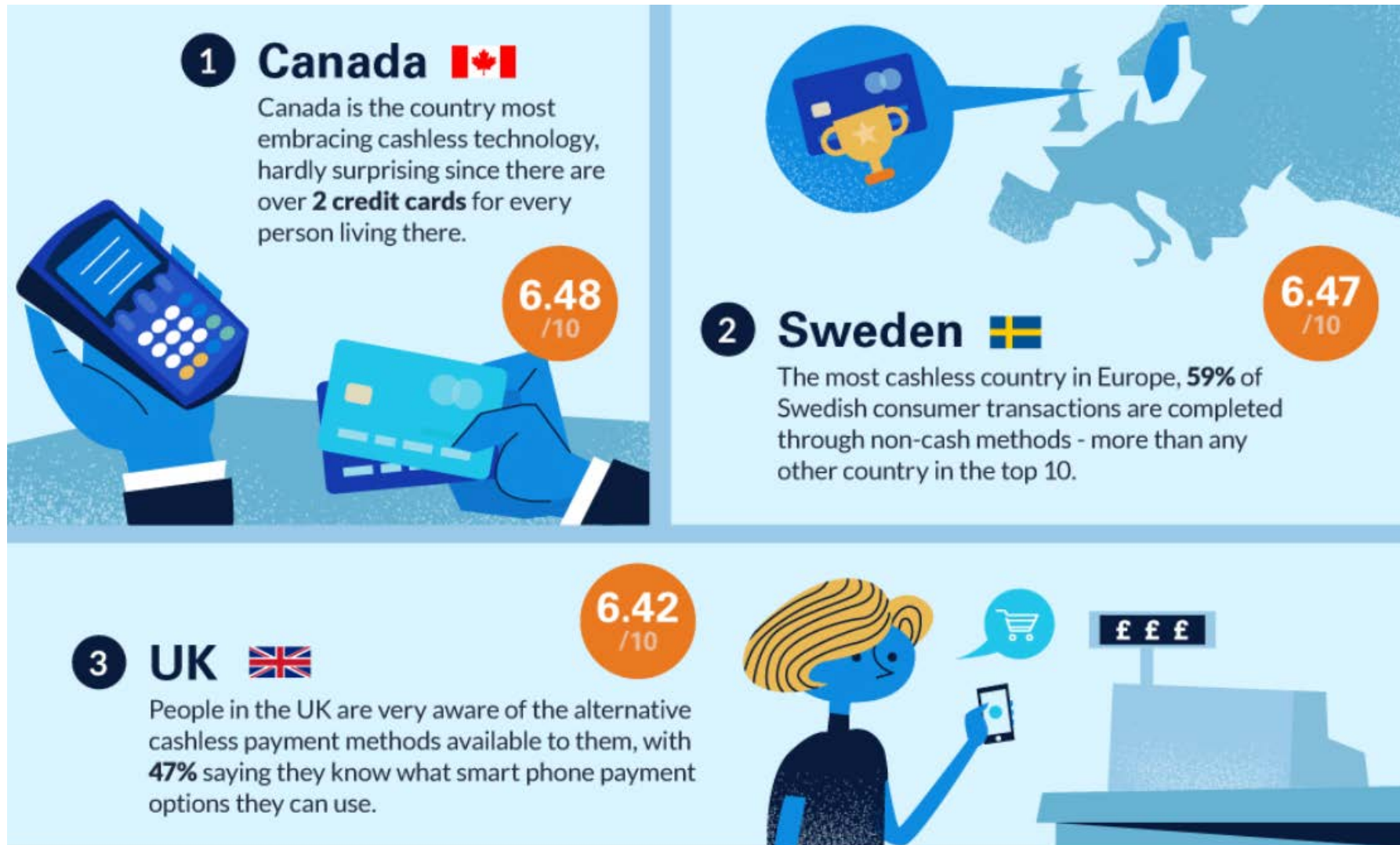
**Payment Transactions Made  
Using Non-Cash Methods**



**People Aware What Mobile  
Payment Options They  
Have Available to Use**

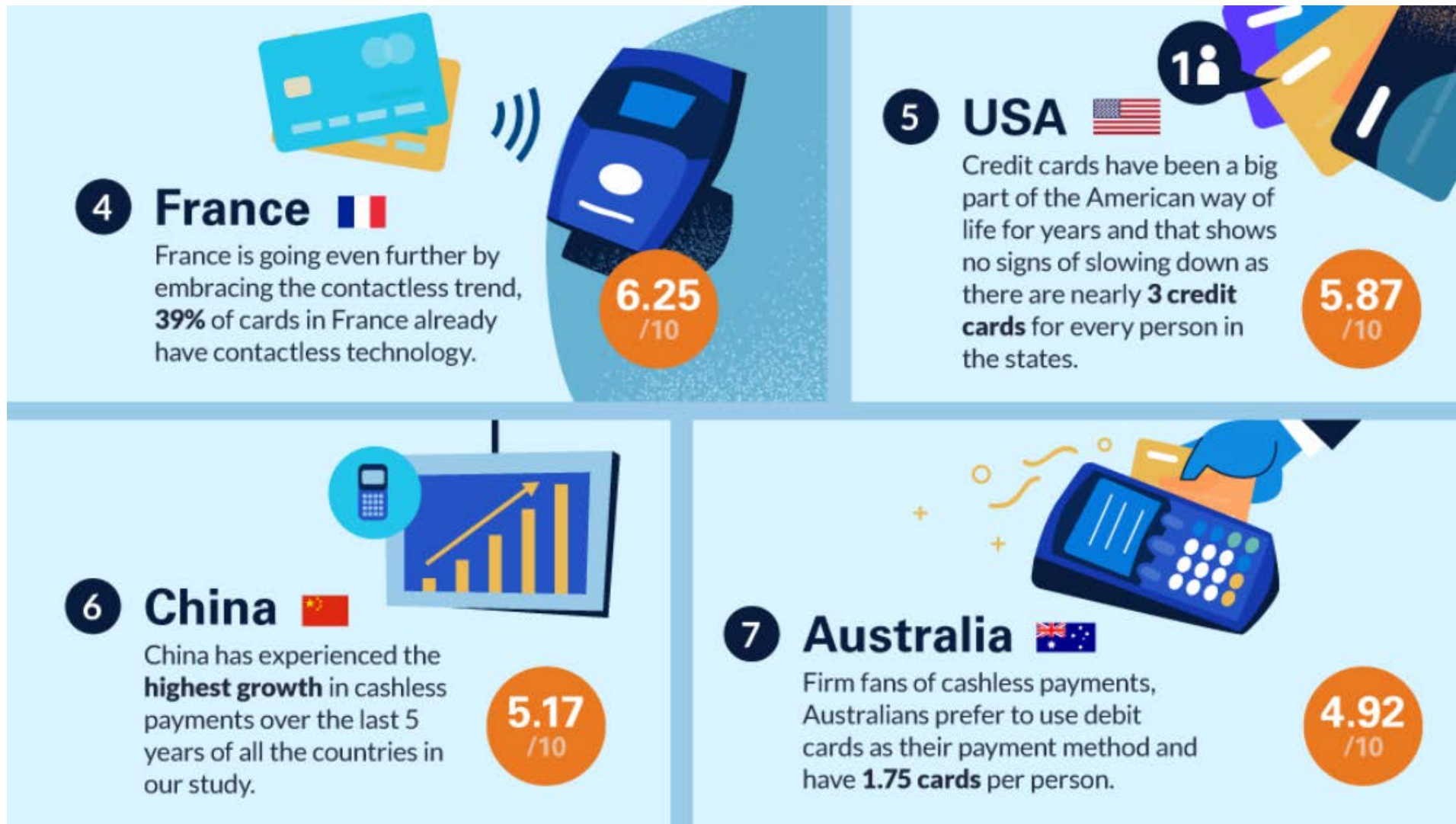


# Trend – Cashless Society





# Trend – Cashless Society





# Trend – Cashless Society

## 8 Germany

A **third** of all consumer transactions in Germany are now completed using cashless methods, including many through contactless and mobile devices.

4.14  
/10



1/3

## 9 Japan

Japan are catching up with the contactless craze and **26%** of cards in issue now have contactless functionality.

3.12  
/10

26%



10

## Russia

Whilst they have a way to go compared to some other countries, Russians are ready and prepared for more cashless options with **57%** claiming they are very aware of the mobile payment methods available to them.

1.95  
/10





# Trend – Cashless Society (UK)



Cashless Britain – 42% of card payments are made via **contactless**

Top ten cities for contactless transactions

Digital card payments are higher than ever with a huge 290,069,274 digital card payments via credit or debit card made across the UK in 2017

City	Sum of Transactions	Contactless Transaction Rate
BRISTOL	8,297,118	59.50%
LONDON	38,514,219	57.06%
BRIGHTON	6,775,089	55.85%
HULL	1,960,002	55.73%
BIRMINGHAM	10,000,609	52.97%
YORK	2,217,563	51.68%
LEEDS	3,655,217	50.14%
NOTTINGHAM	3,195,920	50.12%
OXFORD	3,450,293	48.99%
NORTHAMPTON	2,211,404	48.35%



## Trend – Cashless Society (China)

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# Trend – Cashless Society (Thailand)

27 มีนาคมนี้ หน่วยงานราชการพร้อมรับชำระเงินด้วย QR Code และบัตรเครดิต รองรับสังคมไร้เงินสด



The Comptroller General's Department (CGD: กรมบัญชีกลาง) recently set up the EDC (Electronic Data Capture) and QR Code to government entities

(20 March 2018)



## Trend – Cashless Society (Thailand)

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# Big Data

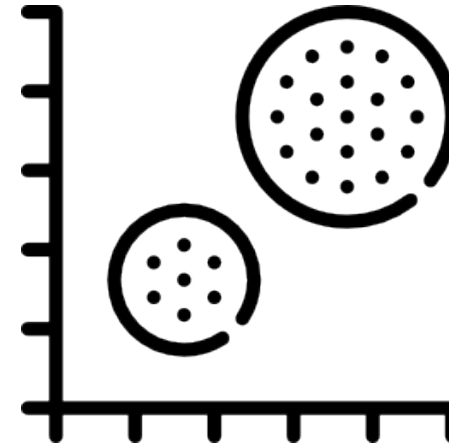




# What is Big Data?

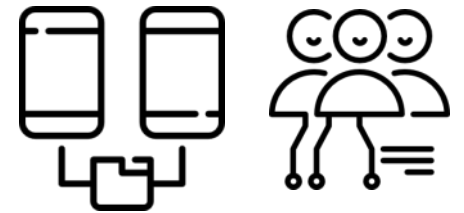
Big Data = Information sets which are

- large or complex
- traditional processing tools inadequate



## 3Vs

- ➡ 1) **Volume** = social media, sensor based, machine-to-machine (storage cost is decreasing)

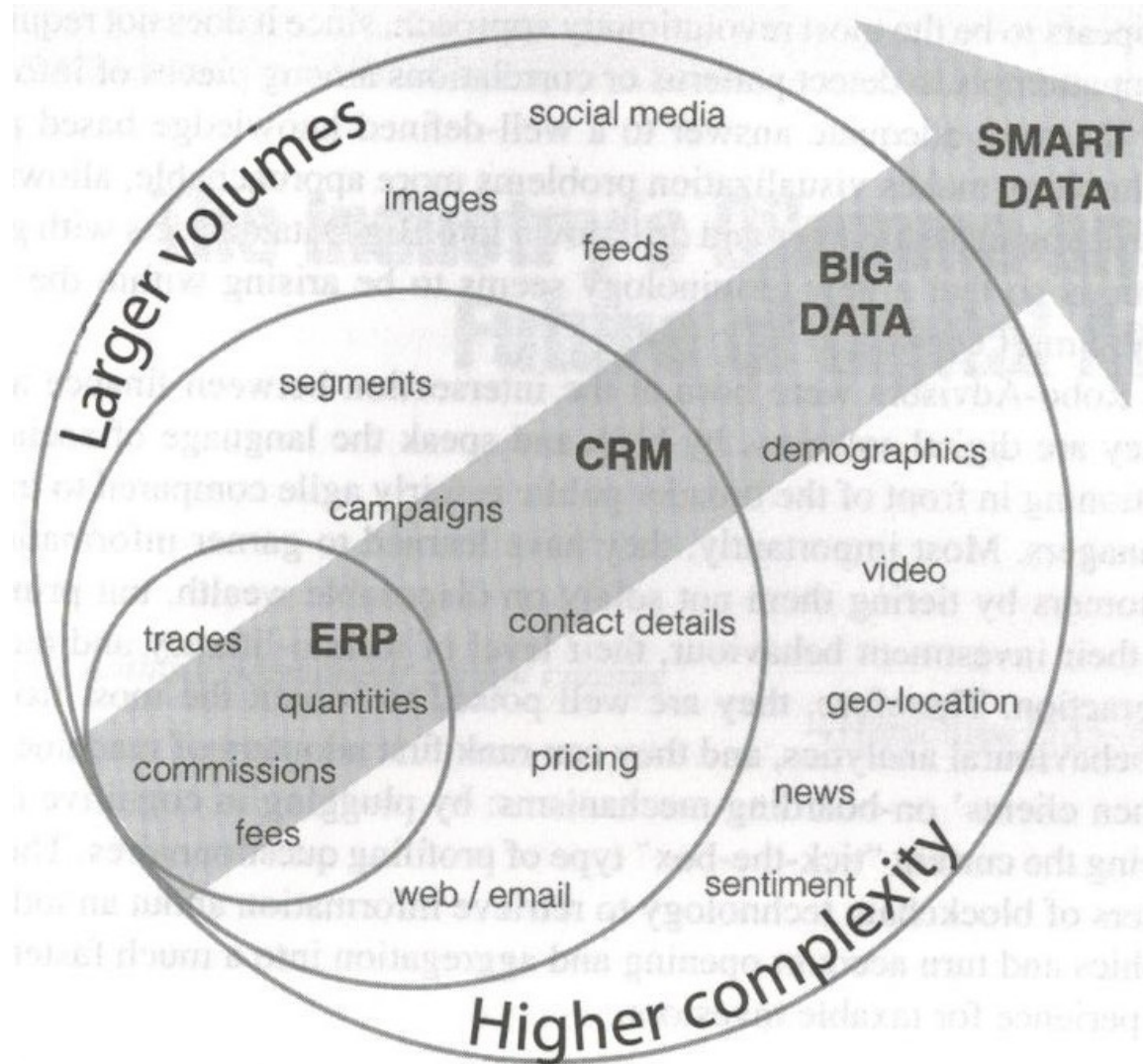


- ➡ 2) **Velocity** = data streams with speed & timely manner

- ➡ 3) **Variety** = traditional database + unstructured format



# What is Big Data?



Customer Segmentation

Credit Rating

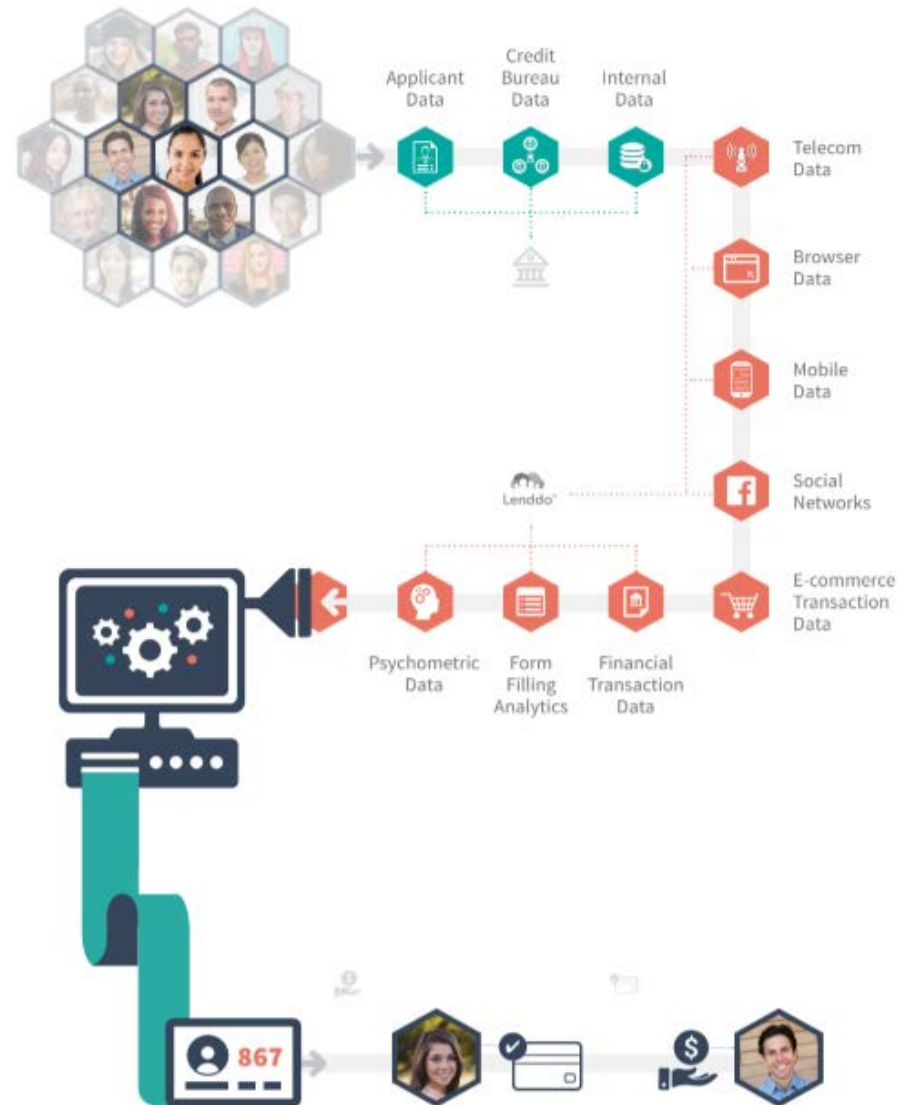
Portfolio Management

Algorithmic Trading

Counterparty Risk Analytic



# Big Data – Use Case (Credit Scoring)



- 1 Applicants submit their applications
- 2 Lenddo collects **TRADITIONAL** and **NON-TRADITIONAL** data
- 3 Lenddo creates new predictive features using artificial intelligence
- 4 The new features are consumed into existing or new scorecards
- 5 Decisions are made instantly at low cost

Financial Institutions



# Internet of Thing (IoT)






# Certification-ready mobile payment solution for wearables



GARMIN PAY™



mastercard + =fitpay

**VISA**

+ =fitpay





# Thousands of people in Sweden are embedding microchips under their skin to replace ID cards



A microchip implant as shown in this photo with "body-hacker" Jowan Osterlund of Sweden. James Brooks/AP



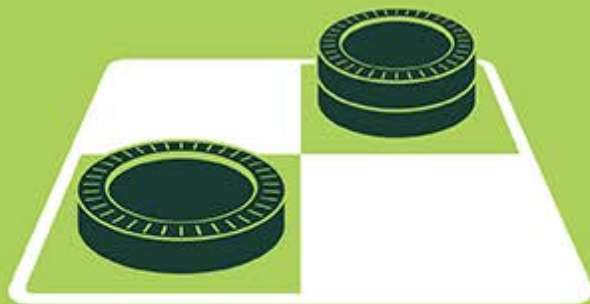
# Artificial Intelligence (AI)





# ARTIFICIAL INTELLIGENCE

Early artificial intelligence stirs excitement.



# MACHINE LEARNING

Machine learning begins to flourish.



# DEEP LEARNING

Deep learning breakthroughs drive AI boom.



1950's

1960's

1970's

1980's

1990's

2000's

2010's

Since an early flush of optimism in the 1950s, smaller subsets of artificial intelligence – first machine learning, then deep learning, a subset of machine learning – have created ever larger disruptions.



# Artificial Intelligence (AI)

## Narrow (Specific) AI

- Constrained by set of problem
- Set of techniques
- Most AI today is this type



## General AI

- Learn and act like human
- Solve problem generally





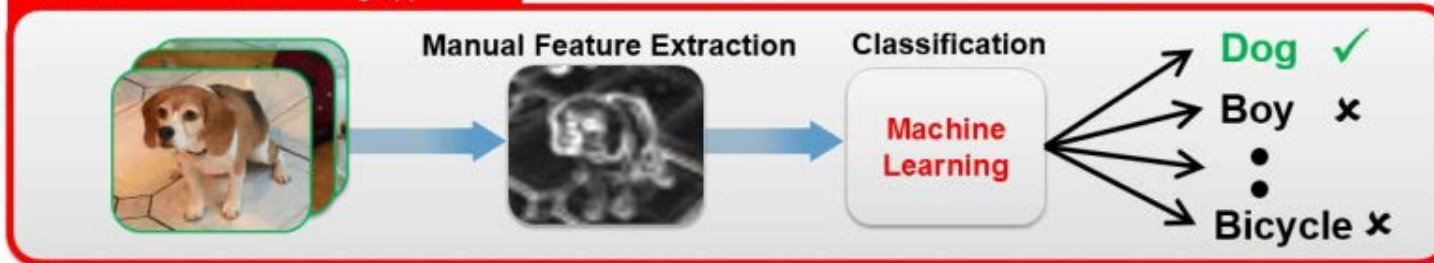
# Machine Learning

- Machine Learning (Algorithms to learn from large amount of data)

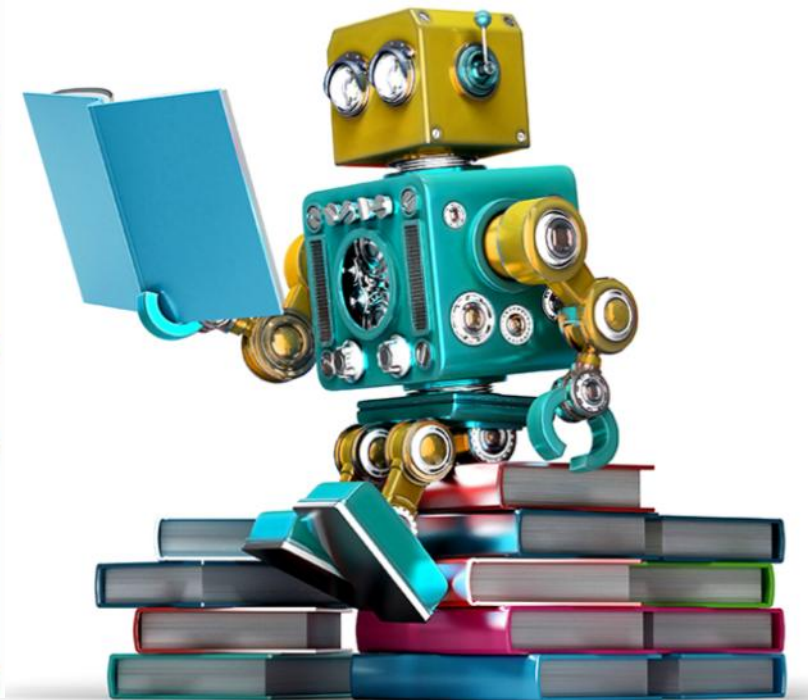
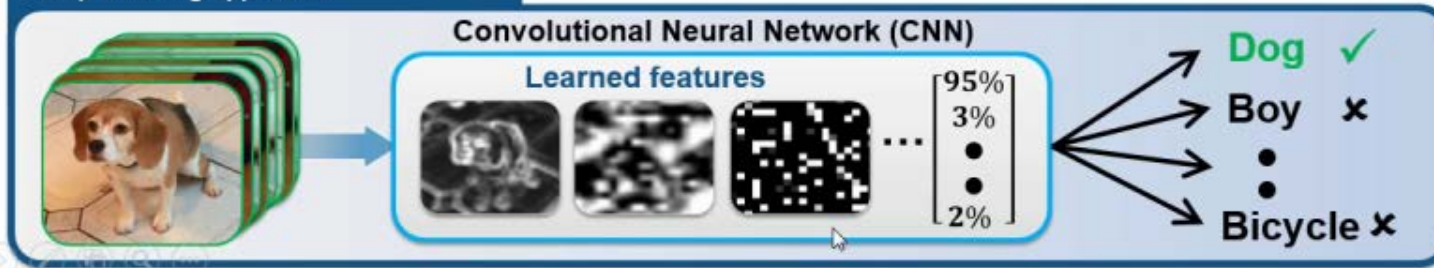
## Deep Learning

Deep learning is a **machine learning** technique that can learn **useful representations or features** directly from **images, text and sound**

### Traditional Machine Learning approach

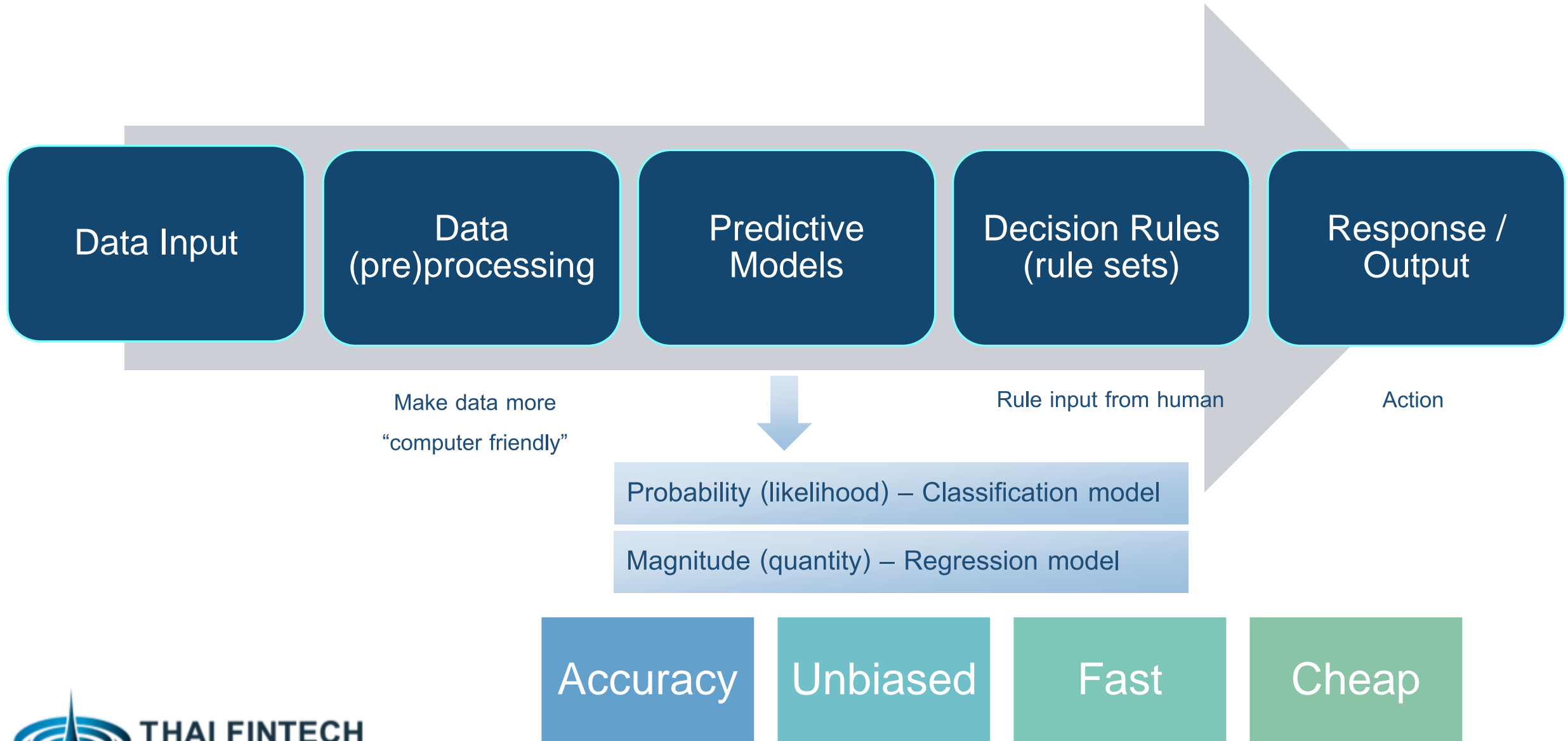


### Deep Learning approach





# Machine Learning – Core Components





## We are teaching AI?

Please prove you're not a robot

scribed landtine

Type the two words:

submerryn.com

⌂ 🔊 ?

Select all images with trees.

✓ ✓ ✓ ✓ ✓

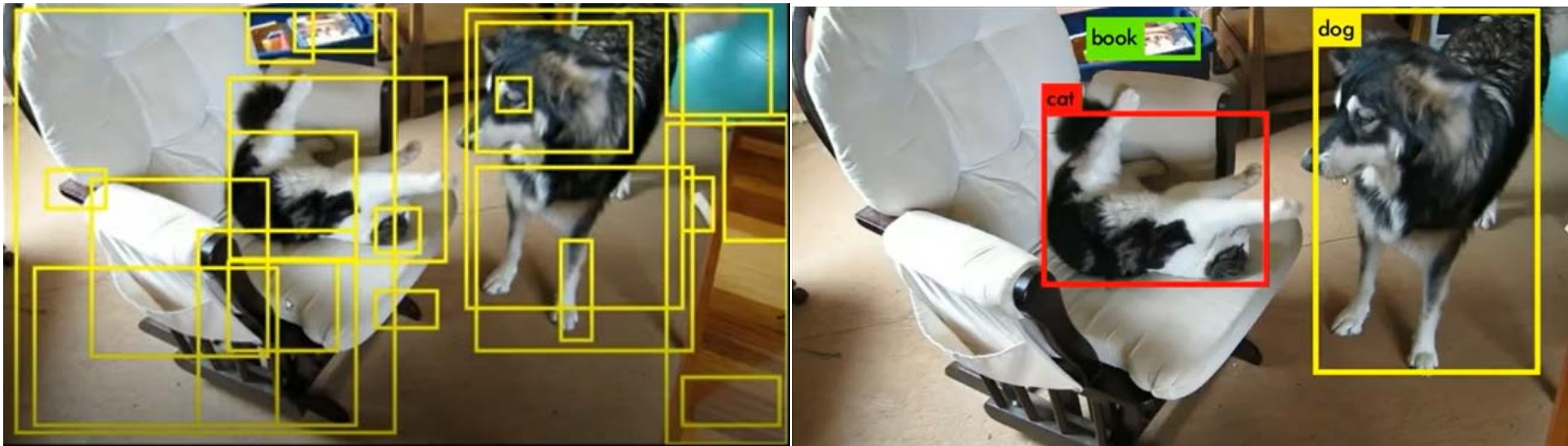
Report a problem

Verify

Google robot verification  
methods



# Deep Learning – Object Detection





# Deep Learning – Object Detection

```
pjreddie@burninator: ~/darknet
12 conv 512 3 x 3 / 1 28 x 28 x 256 -> 28 x 28 x 512
13 conv 256 1 x 1 / 1 28 x 28 x 512 -> 28 x 28 x 256
14 conv 512 3 x 3 / 1 28 x 28 x 256 -> 28 x 28 x 512
15 conv 256 1 x 1 / 1 28 x 28 x 512 -> 28 x 28 x 256
16 conv 512 3 x 3 / 1 28 x 28 x 256 -> 28 x 28 x 512
17 max 2 x 2 / 2 28 x 28 x 512 -> 14 x 14 x 512
18 conv 1024 3 x 3 / 1 14 x 14 x 512 -> 14 x 14 x 1024
19 conv 512 1 x 1 / 1 14 x 14 x 1024 -> 14 x 14 x 512
20 conv 1024 3 x 3 / 1 14 x 14 x 512 -> 14 x 14 x 1024
21 conv 512 1 x 1 / 1 14 x 14 x 1024 -> 14 x 14 x 512
22 conv 1024 3 x 3 / 1 14 x 14 x 512 -> 14 x 14 x 1024
23 conv 9418 1 x 1 / 1 14 x 14 x 1024 -> 14 x 14 x 9418
24 avg 14 x 14 x 9418 -> 9418
25 softmax 9418
26 cost 9418
Loading weights from darknet5000.weights...Done!
dog.jpg: Predicted in 0.034954 seconds.
36.63%: malamute
14.61%: Siberian husky
11.71%: Eskimo dog
4.71%: keeshond
2.52%: Norwegian elkhound
pjreddie@burninator: ~/darknet
```

**PROCESSES**


Xorg	45.4%UB
terminal	41.8%UB
thunar	27.0%UB
nm-applet	22.0%UB
lightdm	15.8%UB
dbus	0.0%UB
systemd	0.0%UB
gnome-keyring	0.0%UB
gnome-keyring	0.0%UB
gnome-keyring	0.0%UB

**PROCESSORS**

CPU: 0.0%

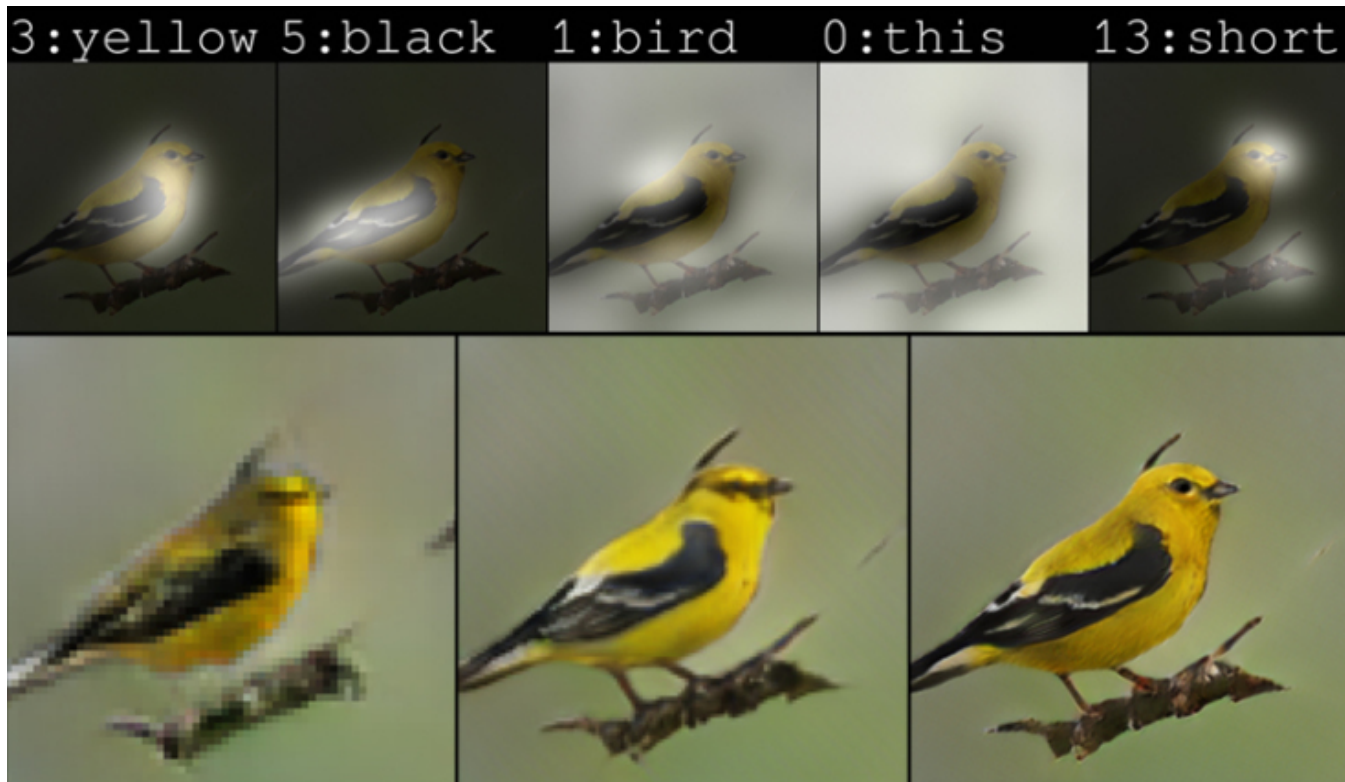
**MEMORY**

RAM: 200MB / 31.4GB 0%





# AI - Example



a fruit stand display with bananas and kiwi





## Alibaba launches 'smile to pay' facial recognition system at KFC in China



4 September 2017

## HSBC rolls out facial recognition for mobile



**HSBCnet**  
Mobile App:  
**Now with**  
**Face ID**

9 May 2018



# AI & Big Data – Applications

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- Portfolio Management – Robo-Advisor
- Automated Trading Systems / High-Frequency Trading
- Fraud Detection
- Loan / Insurance Underwriting
- Credit Scoring
- Target Marketing
- Preventive Healthcare
- News/Social Media



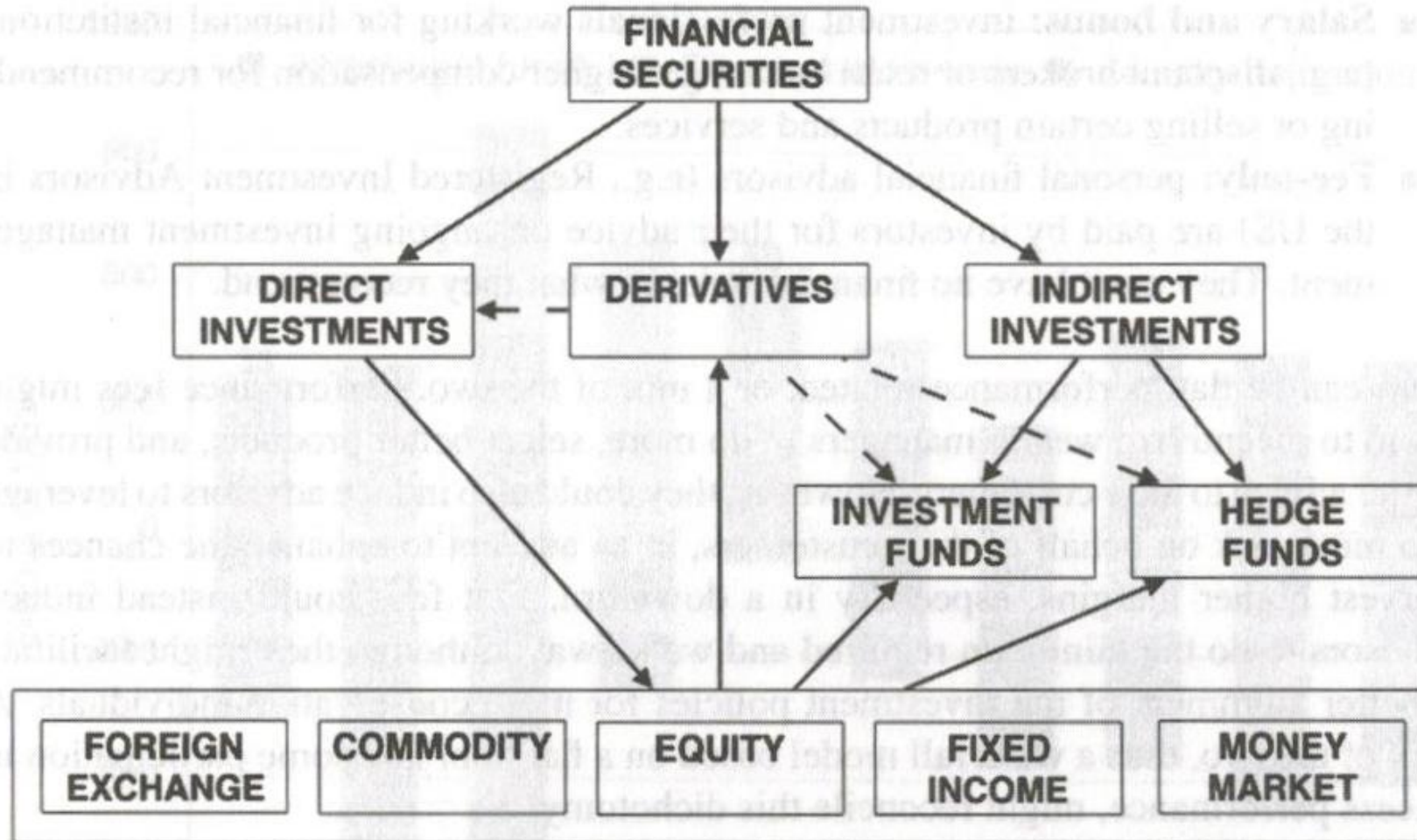




Investment and Wealth  
Management are changing

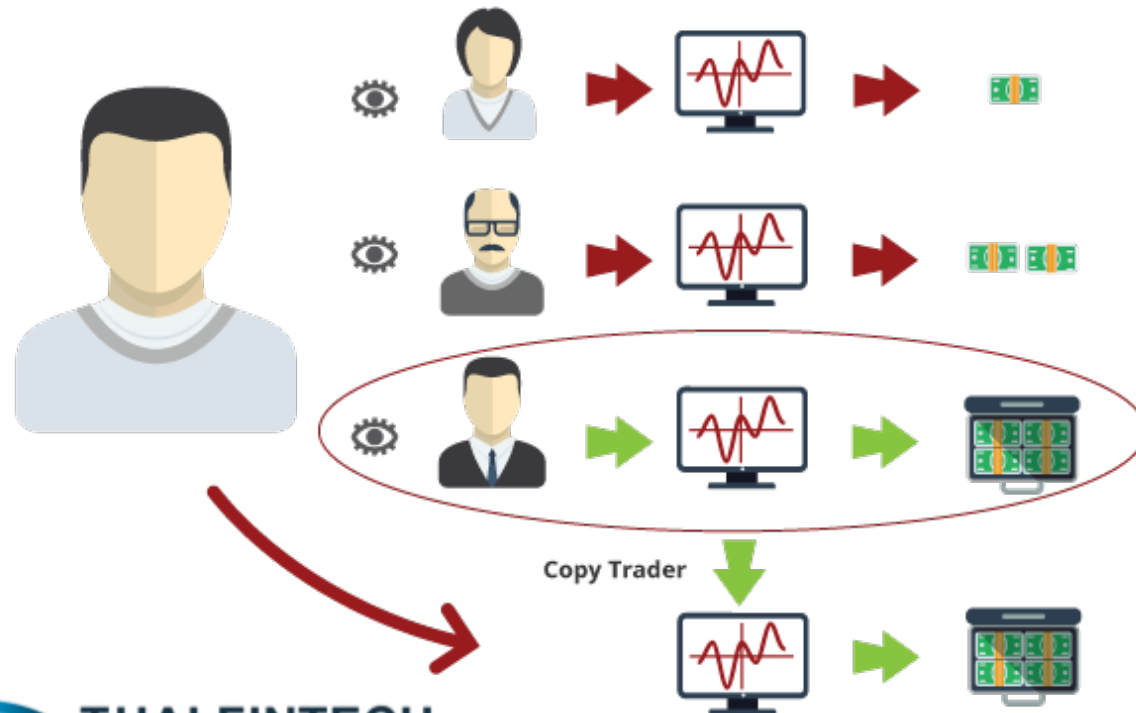


# Investment Management Industry – Direct & Indirect Investment











# Trend – Social Trading (Copy Trade)



## Promising Traders

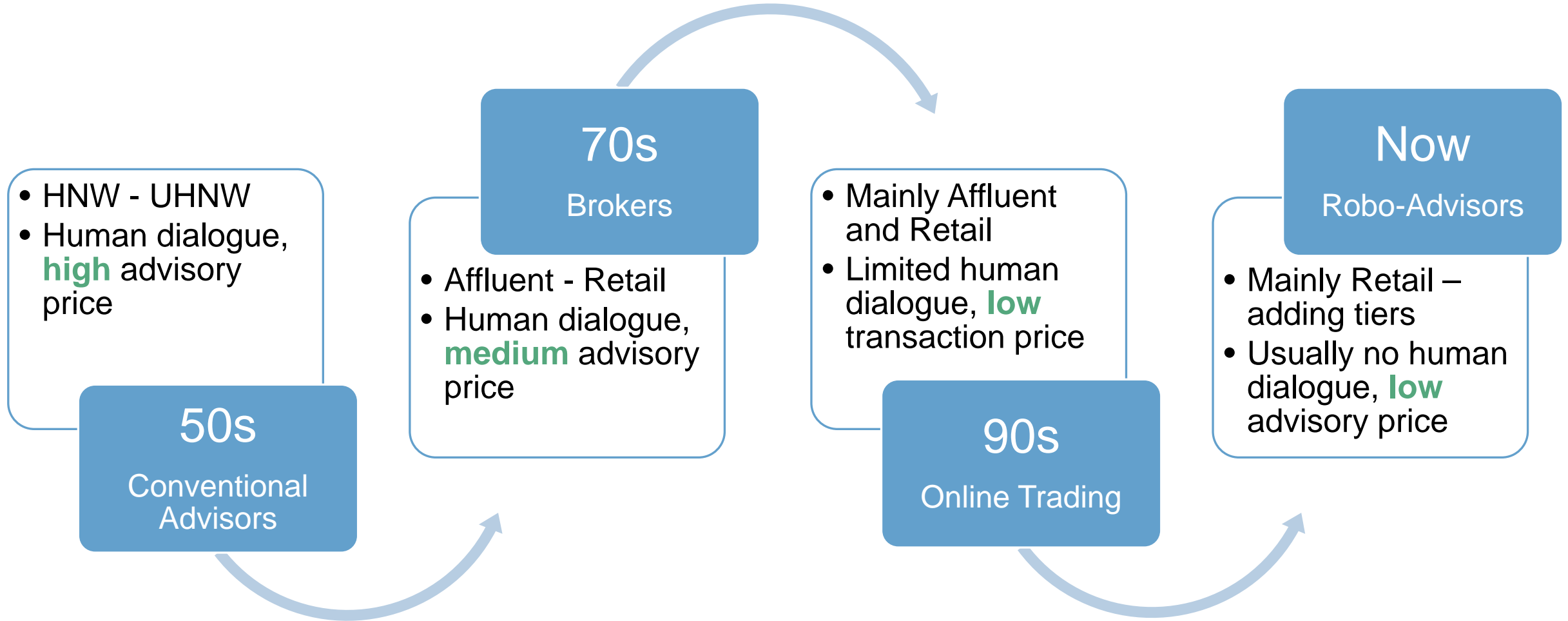
 <b>lucasjarvis</b> ✓	 <b>charlieto</b> ✓	 <b>MohamedPres</b> Mohamed eljerrari ✓
54.74% RETURN (LAST 1Y)	52.03% RETURN (LAST 1Y)	51.24% RETURN (LAST 1Y)
5 RISK	6 RISK	3 RISK
15 COPIERS +1,400.00% LAST 7D	26 COPIERS +73.33% LAST 7D	56 COPIERS -1.75% LAST 7D
+	+	+

## Trending Investors

 <b>Remon-55</b> ✓	 <b>onafetsoteca</b> Stefano Aceto ✓	 <b>forextrader1000</b> tim tyler ✓
74.61% RETURN (LAST 3M)	58.02% RETURN (LAST 3M)	43.83% RETURN (LAST 3M)
5 RISK	5 RISK	7 RISK
97 COPIERS +304.17% LAST 7D	59 COPIERS +136.00% LAST 7D	81 COPIERS +11316% LAST 7D
+	+	+

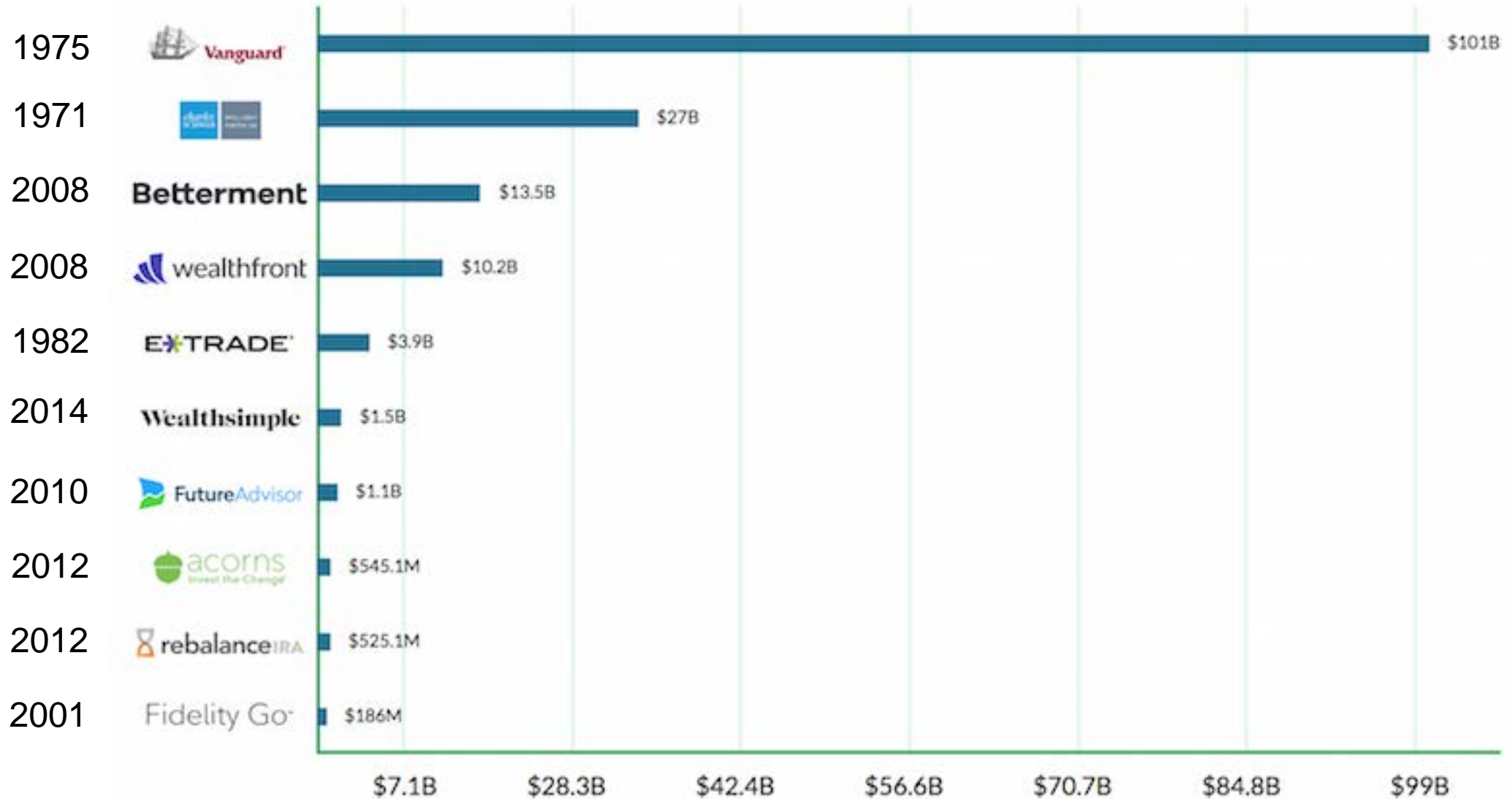


# Trend – Robo-Advisors





# Largest Robo Advisors By Assets Under Management (as of 2H 2018)





**Betterment**



Both use “Modern Portfolio Theory”

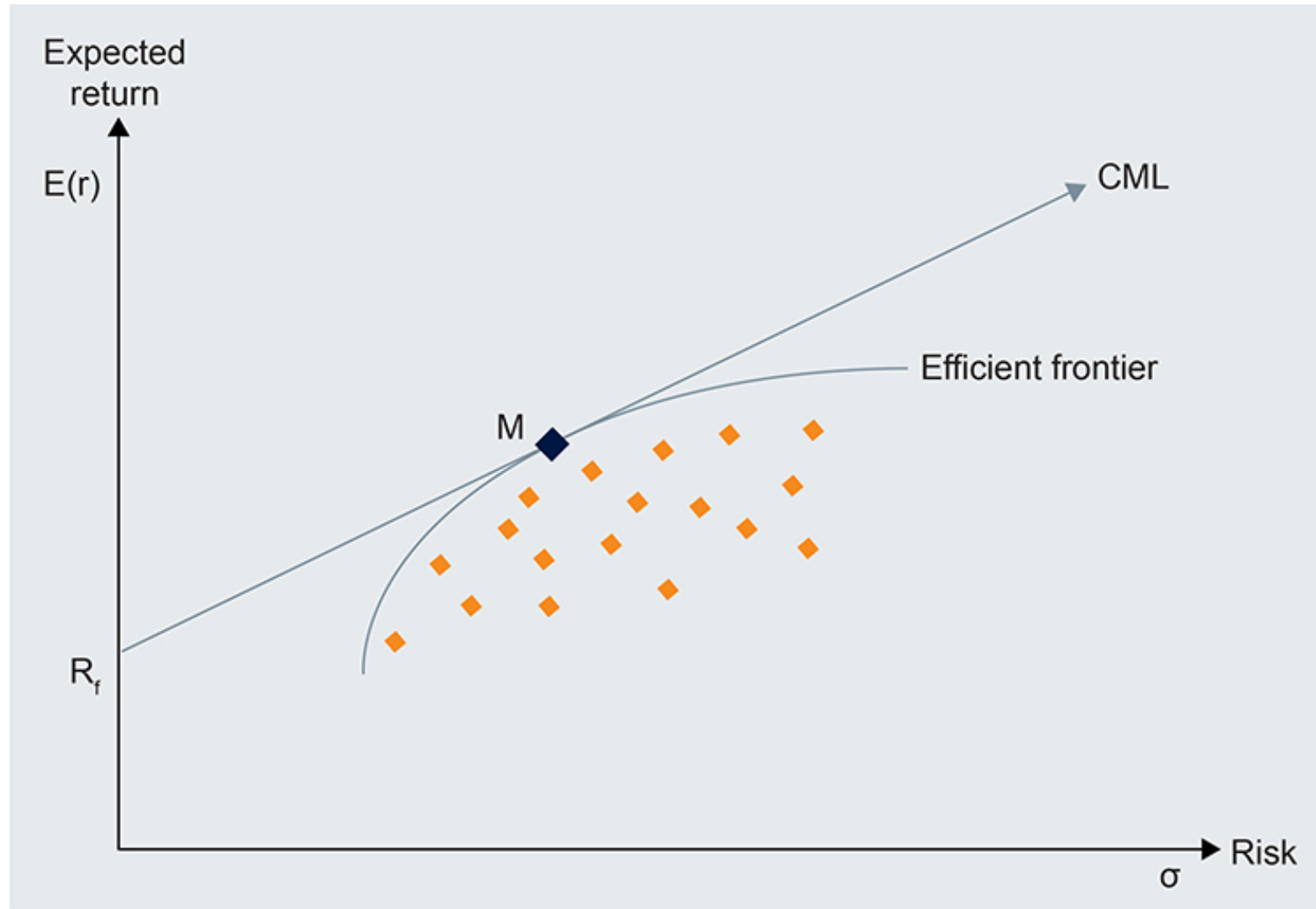
- Asset Allocation > Security Selection

Both follow “Passive Investing”

- Passive > Active (for long term)



# Modern Portfolio Theory





# Investment Management: Portfolio Planning



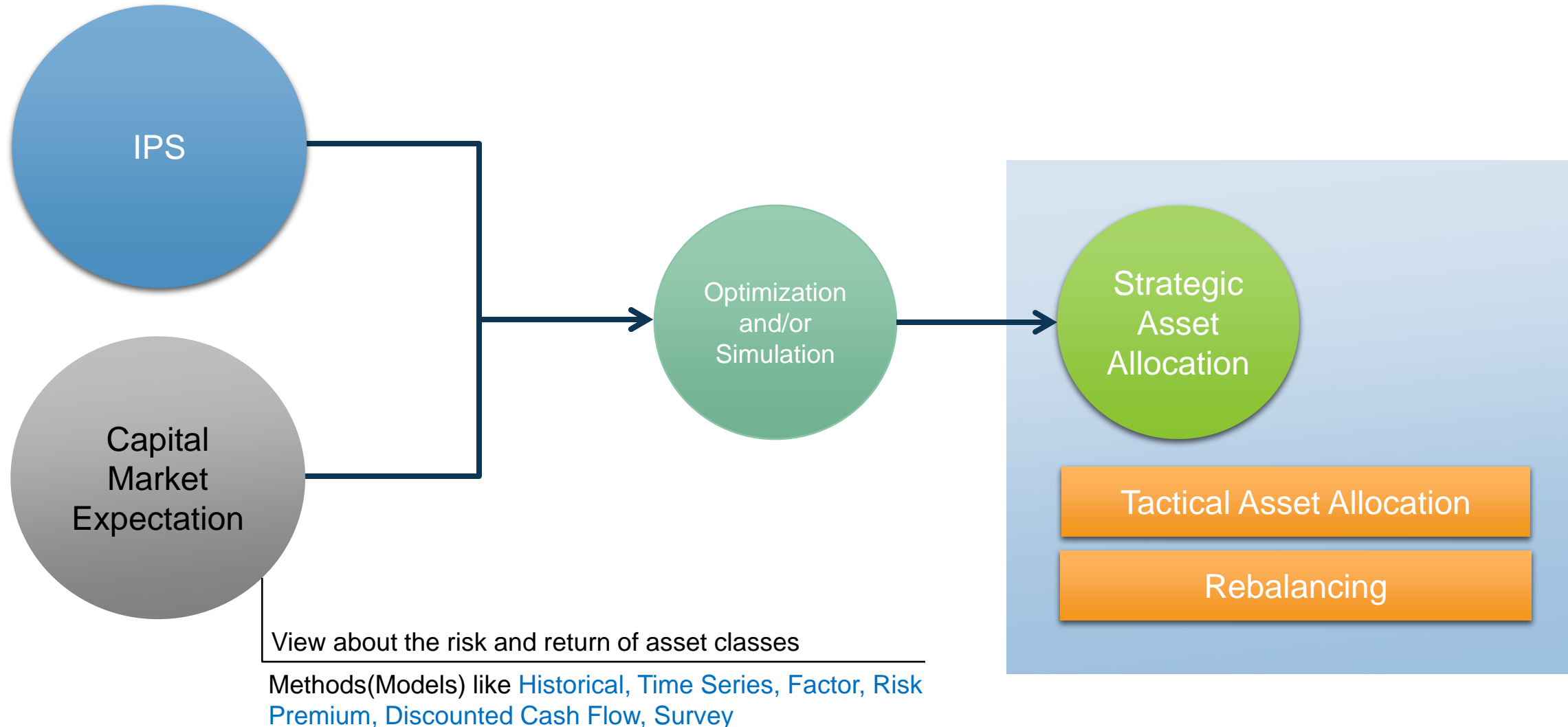
## Investment Policy Statement (IPS)

- written document
- defines the client/advisor relationship
- sets clear objectives and constraints
- to develop a **strategic asset allocation**

The IPS should be reviewed annually or changed whenever a major change in circumstances could affect risk-return objectives or portfolio constraints.

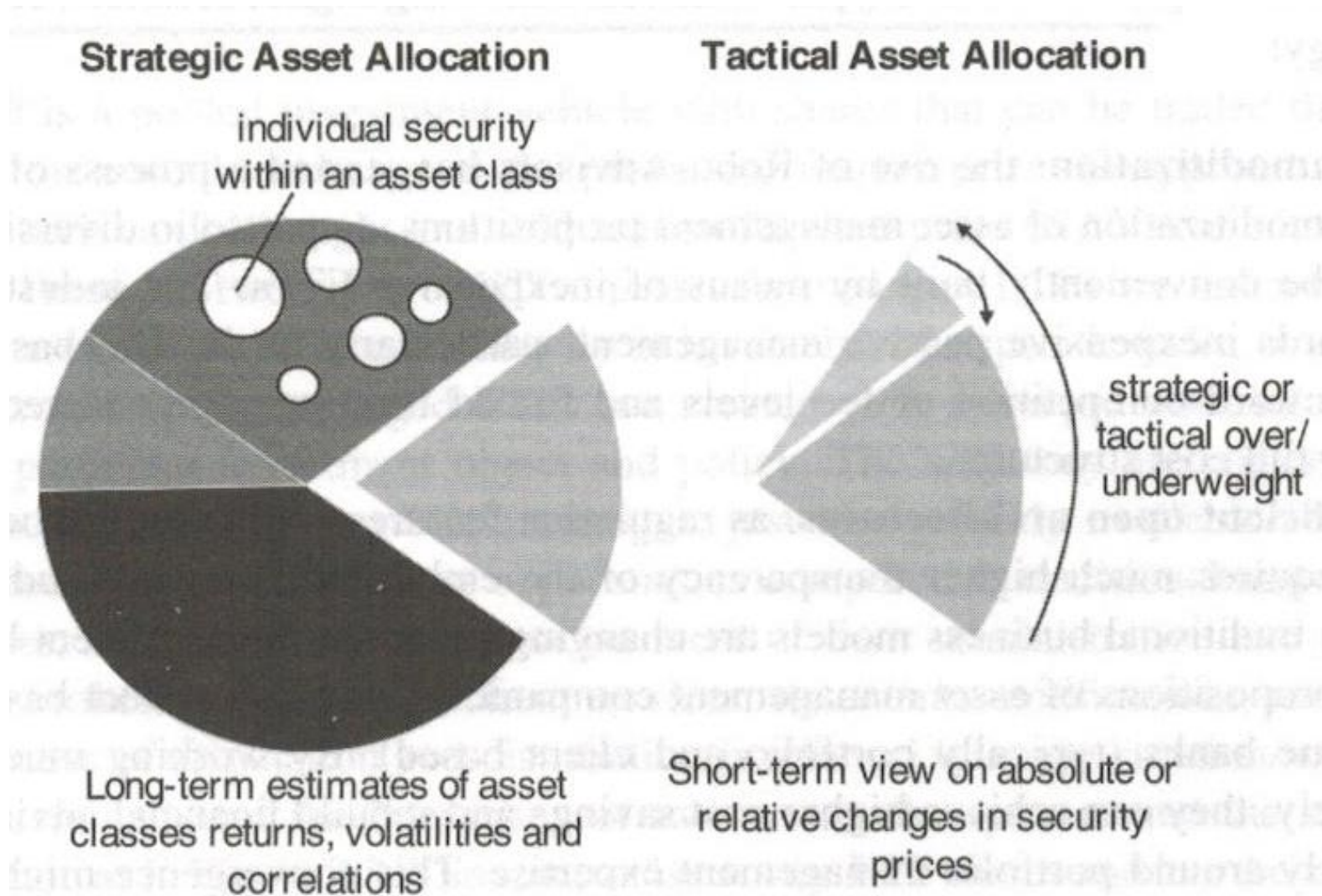


# Investment Management: Strategic Asset Allocation





# Investment Management: Strategic vs Tactical





# Investment Management – Investment Approach

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## Passive

- Benchmark (Beta)
- Buy and Hold
- Rebalance to diversified portfolio
- Low turnover
- Relaxed

## Semi-Active

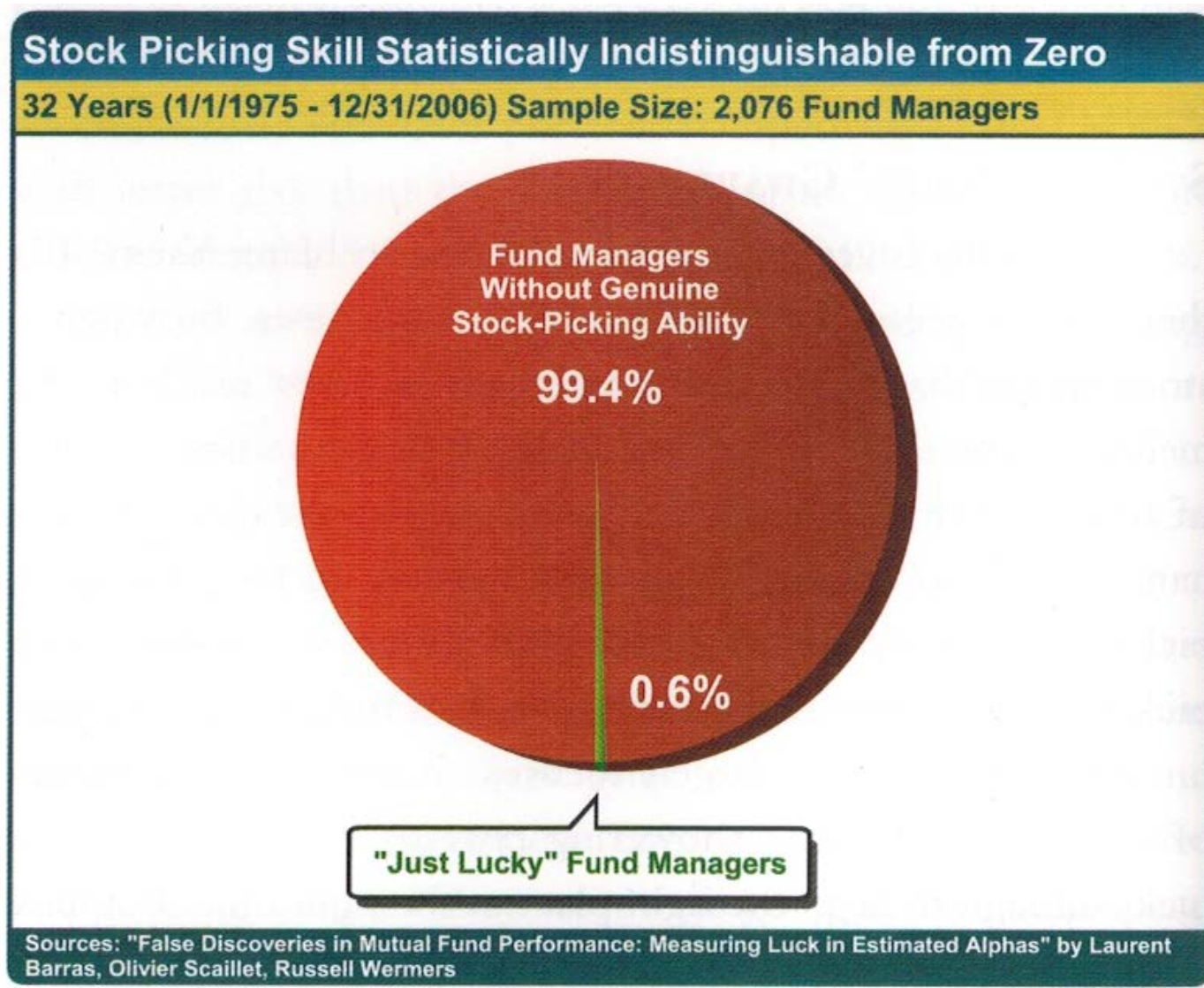
- Enhanced Indexing

## Active

- Beat Benchmark (Alpha)
- Stock, Time & Managers Picking
- Style Drift, usually not hold diversified portfolio
- High turnover
- Stressed

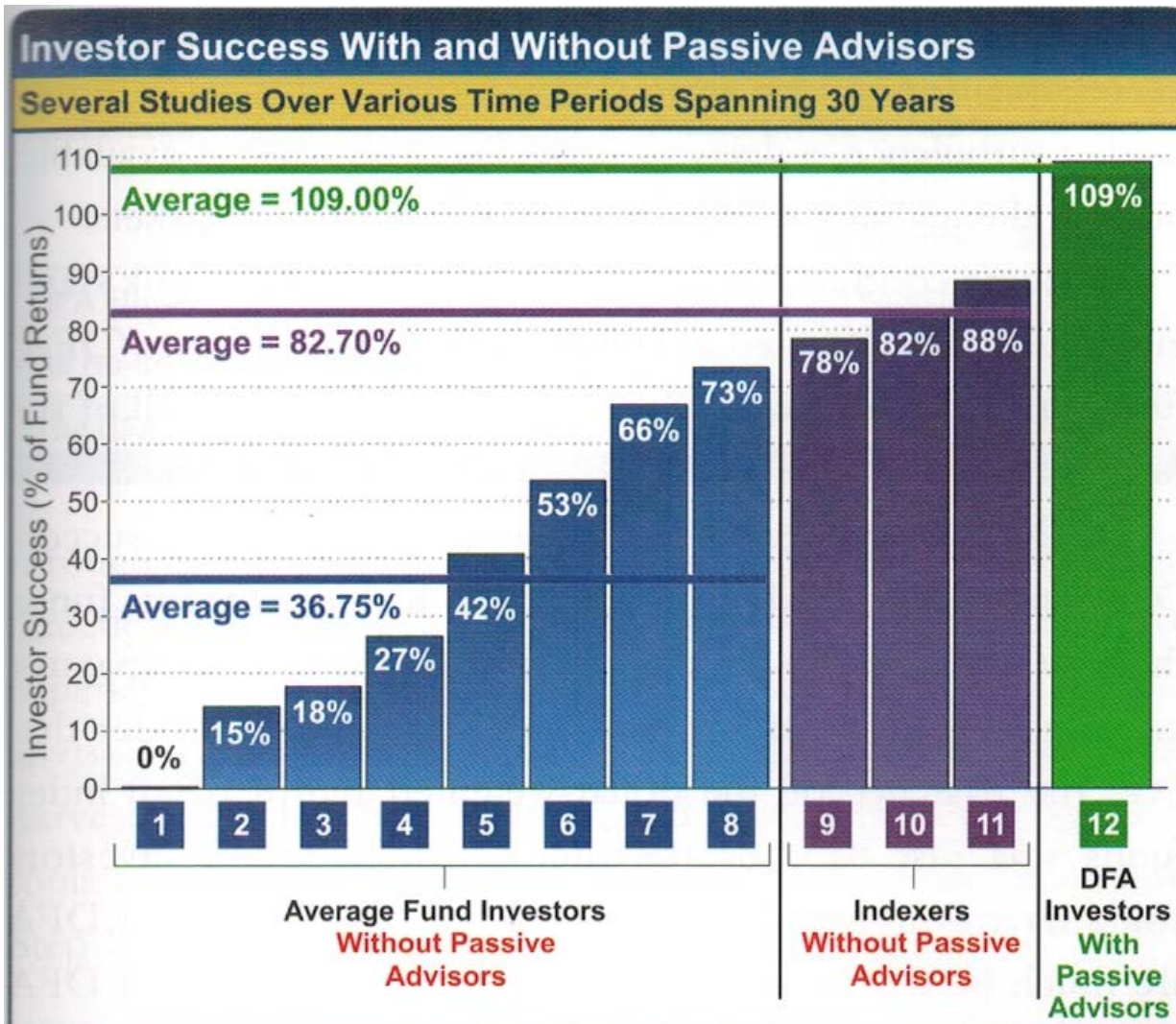


# Fund Managers really have stock picking skill?





# Passive is better than Active?



## Source of Studies

1	<i>The Little Book of Common Sense Investing</i> , p. 56	10 Yrs (1995-2005)
2	Dalbar QAIB Study 2011 (Bond Funds), p. 3	20 Yrs (1991-2010)
3	<i>Money Magazine</i> (6/2002), p. 110	4 Yrs (1998-2001)
4	Bogle Financial Markets Research Center, Sec. 2	10 Yrs (1996-2005)
5	Dalbar QAIB Study 2011 (Equity Funds), p. 3	20 Yrs (1991-2010)
6	<i>Bad Timing Eats Away at Investor Returns</i> , Morningstar	10 Yrs (2000-2009)
7	<i>Common Sense on Mutual Funds</i> , p. 331	10 Yrs (1994-2003)
8	<i>The Little Book of Common Sense Investing</i> , p. 51	25 Yrs (1980-2005)
9	<i>The Little Book of Common Sense Investing</i> , p. 56	10 Yrs (1995-2005)
10	Morningstar Yearbook 2005, p. 2	10 Yrs (1996-2005)
11	<i>The Little Book of Common Sense Investing</i> , p. 51	25 Yrs (1980-2005)
12	Morningstar Yearbook 2005, p. 3	10 Yrs (1996-2005)

Sources, Updates and Disclosures: see sources above, ifabt.com

## Key Takeaways

- Normal Passive (Indexer) beats average funds
- Even better if has Passive Advisors



# Passive Investing in U.S.

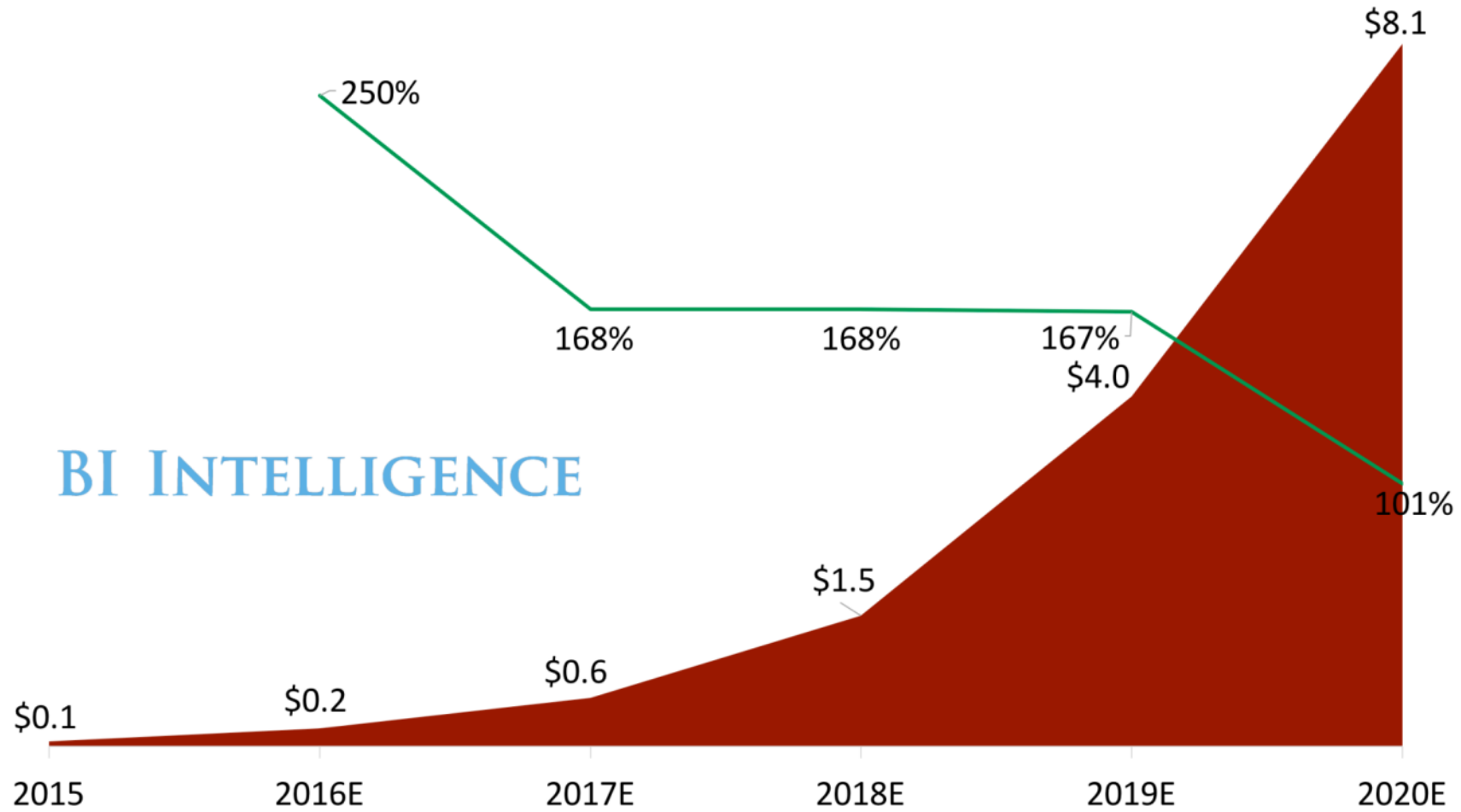
## Passive Investing Popularity Continues to Soar





# FORECAST: Global Assets Under Management By Robo-Advisors

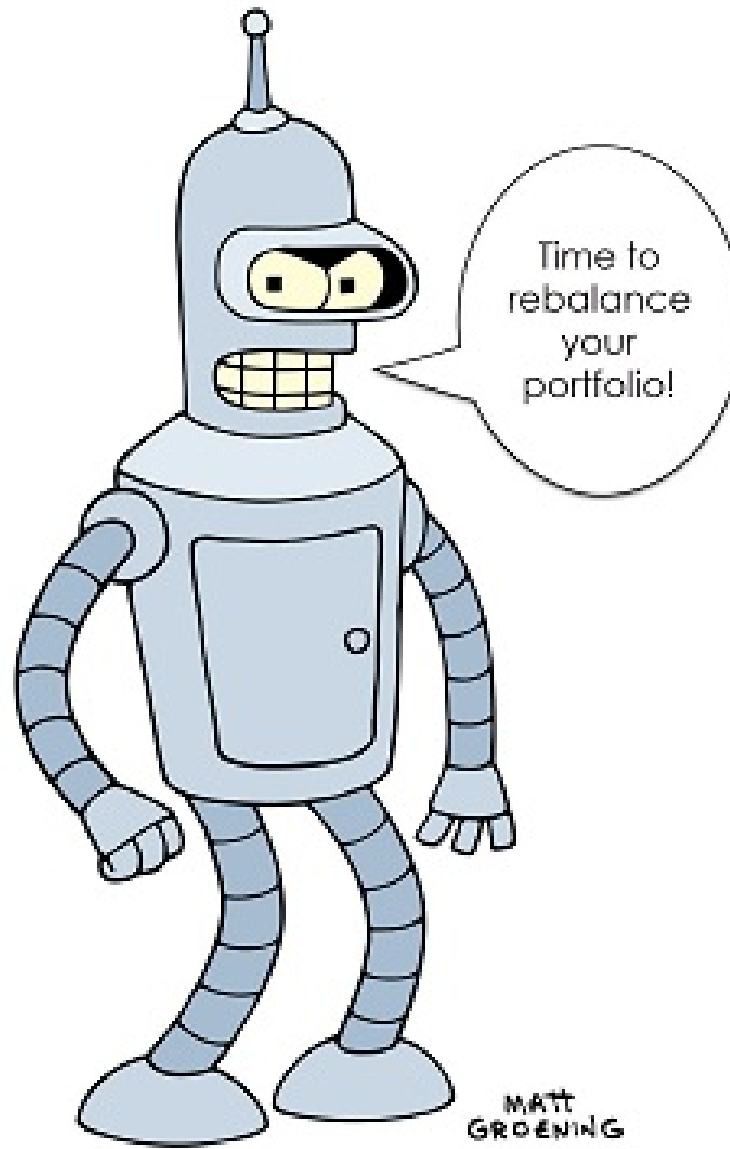
■ Global AUM \$Trillions    — Year-Over-Year Growth Rate



BI INTELLIGENCE

Source: BI Intelligence









Thai Fintech Startups  
are growing rapidly in  
recent years



# Thai Fintech Companies



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# Thai Fintech Companies

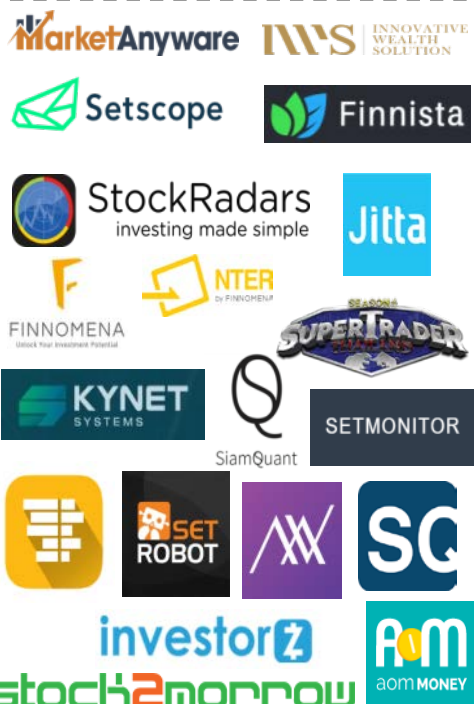


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\*Source: Techsauce



## Retail Investment



## Payment



## Blockchain/ICO



## Lending & Credit



## Business Tools / Comparison



## Insurance



## Personal Finance / Remittance



## Financial Comparison / Institution Infrastructure



## Crowdfunding



2017 ≈ 140





# Thai Fintech Association



# 1. Overview of Thai Fintech Association (TFTA) - History

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# 1. Overview of Thai Fintech Association (TFTA)

## Mission



1. ↑ Increase accessibility to financial products
2. ↓ Reduce financial transaction cost in Thailand
3. ↑ Promote fair and transparent competition
4. ↑ Support Thai fintech startups and ecosystem

## Goals



1. Fintech Sandbox

2. Center of Fintech Ecosystem

3. National Fintech Roadmap





# 1. Overview of Thai Fintech Association (TFTA) - Organization



KORN CHATIKAVANIJ  
CHAIRMAN



JESSADA SOOKDHIS  
PRESIDENT



NATWUT AMORNVIVAT  
VICE PRESIDENT



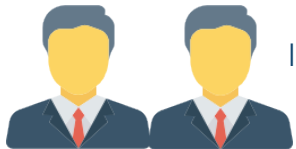
OLARN WERANOND  
SECRETARY



THUNTEE SUKCHORAT  
REGISTRAR



PEINKRAI ASAWAPOKA  
TREASURER



Independent Directors (2)



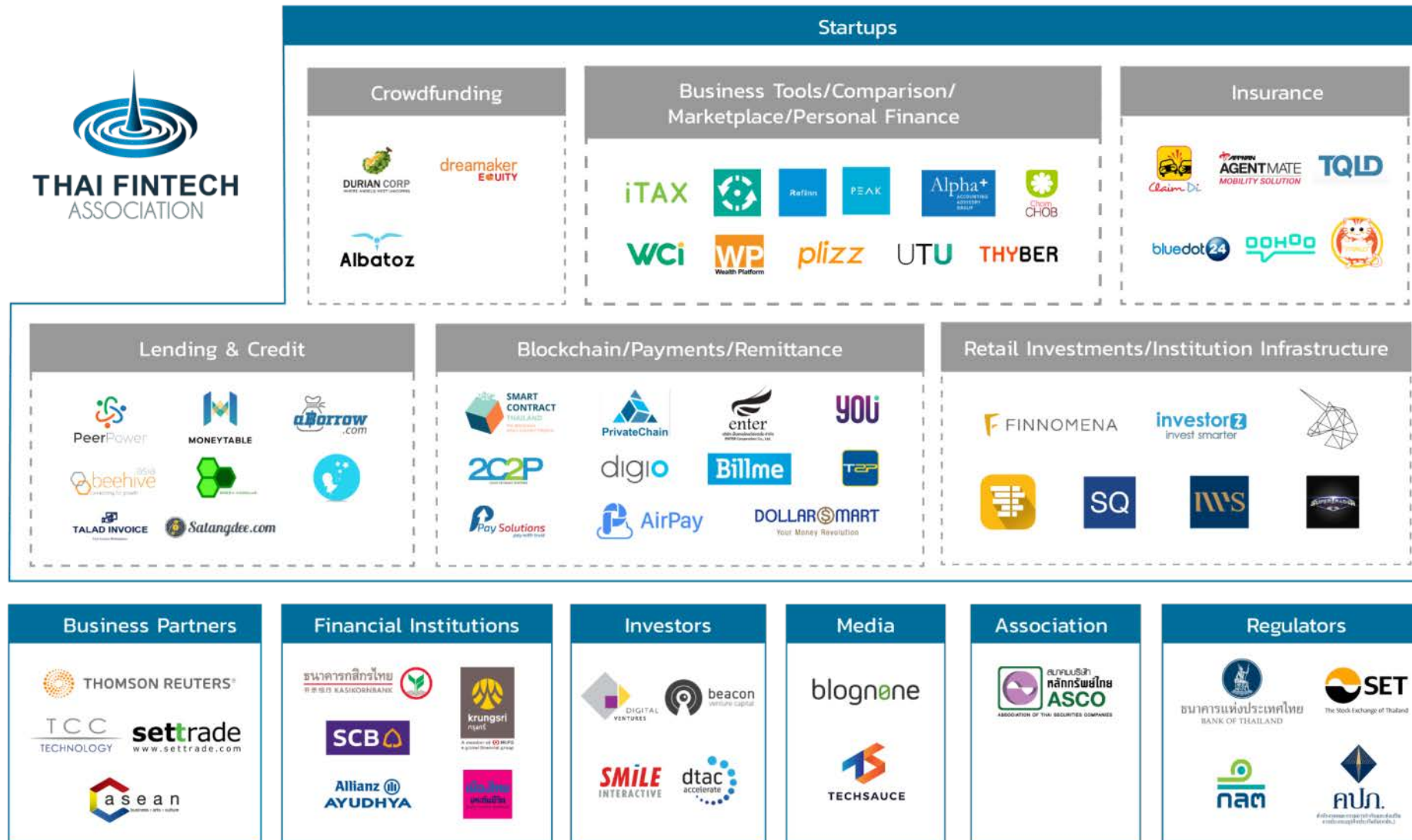
Representatives from FI (4)

## 2 Representatives from each 6 groups Fintech Industry (12)

Crowdfunding	Lending & Credit	Blockchain/ Payment/Remittance
Insurance	Retail Investment/ Institution Infrastructure	Business Tool /Comparison/ Marketplace/ Personal Finance



# 1. Overview of Thai Fintech Association (TFTA) - Members



Members

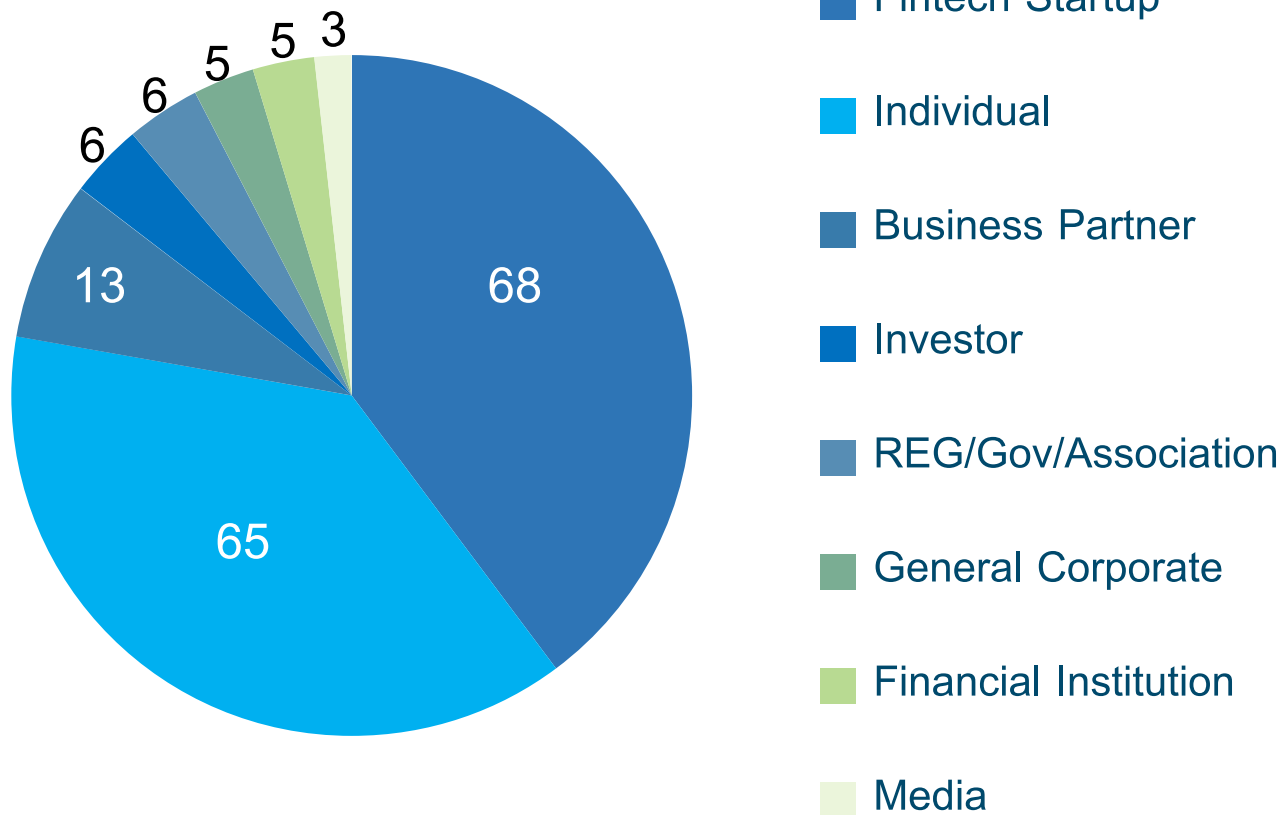
171 Members

60 Members

Others



# Members



**Total Members 171**

Fintech Sector	
Lending & Credit	15
Business Tools / Comparison / Marketplace	13
Payments	8
Retail Investments	8
Blockchain	7
Insurance	6
Personal Finance	4
Crowdfunding	3
Institution Infrastructure	2
Remittance	1



# Our Sponsors

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## Platinum



## Silver



## Supporter



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