

Data Driven Innovation



The new frontier of data driven start-ups

Simon Spencer,
CEO edgelabs & The Big Little Data Co.

v2.0



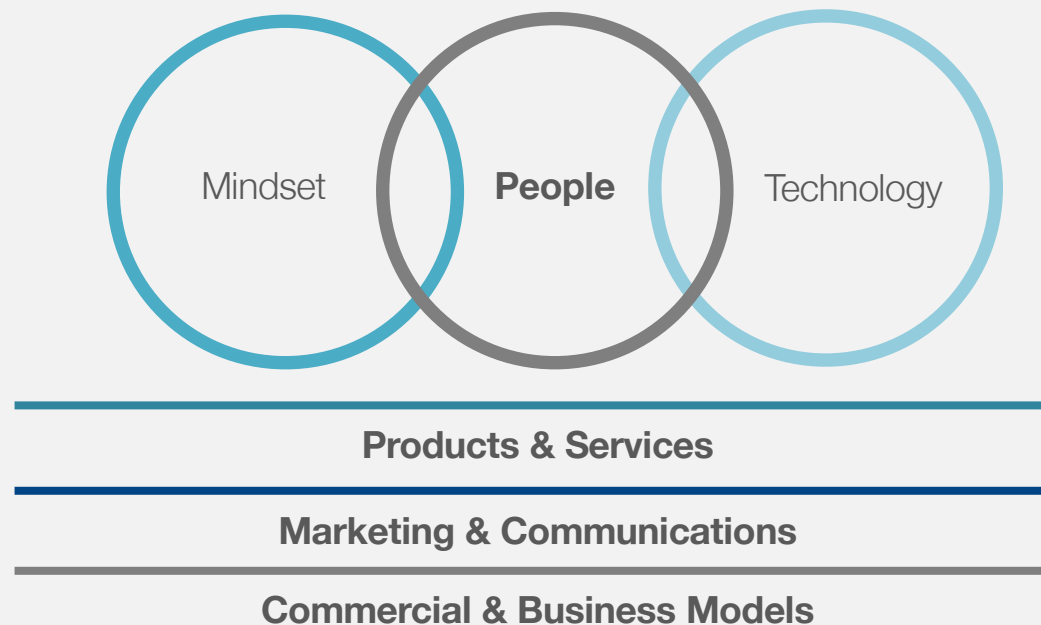
September 7th 2016

Data Driven, Digital Disruption

What is digital transformation ...

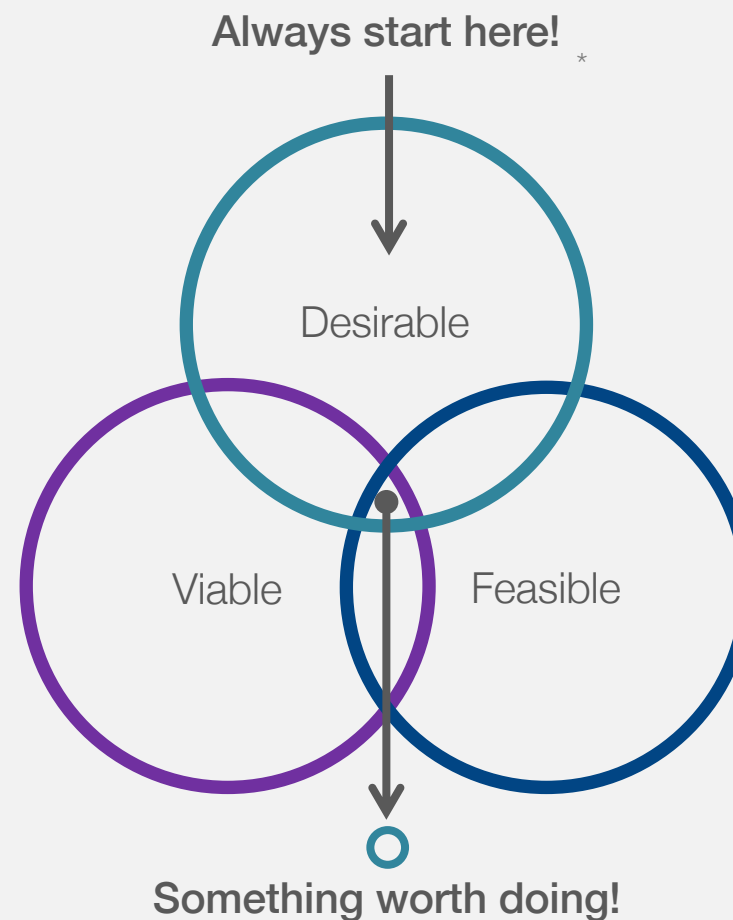
Rapid, customer-led change

- Mass adoption of technology has altered **people's behaviours and experiences**.
The flow-on effect of **changing customer expectations** requires businesses to adapt ...



Customer experience

- Exploring what a customer experiences from a product or a service
- **Customer experience may differ from customer expectation**
- Mapping this and understanding this is core to success ...
 - **Apple use it to create great products**
 - **Google use it to create great services**
 - **Amazon use it to drive purchasing**
 - **Facebook use it to drive engagement**

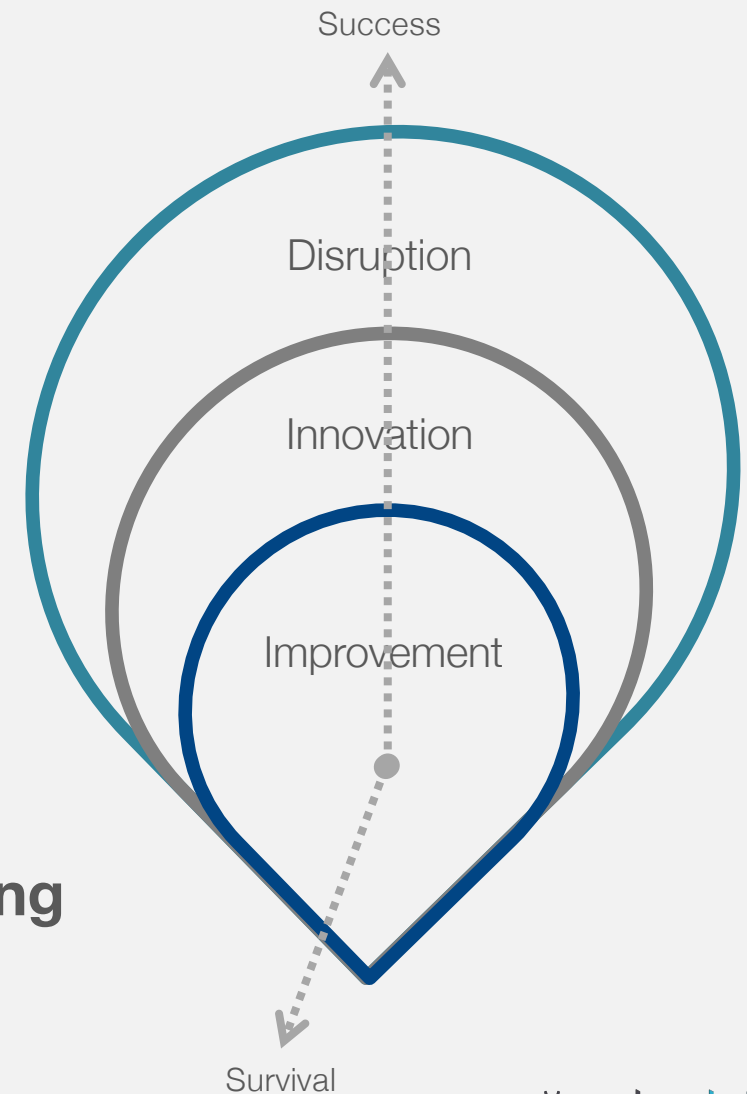


* The IDEO model

Innovation

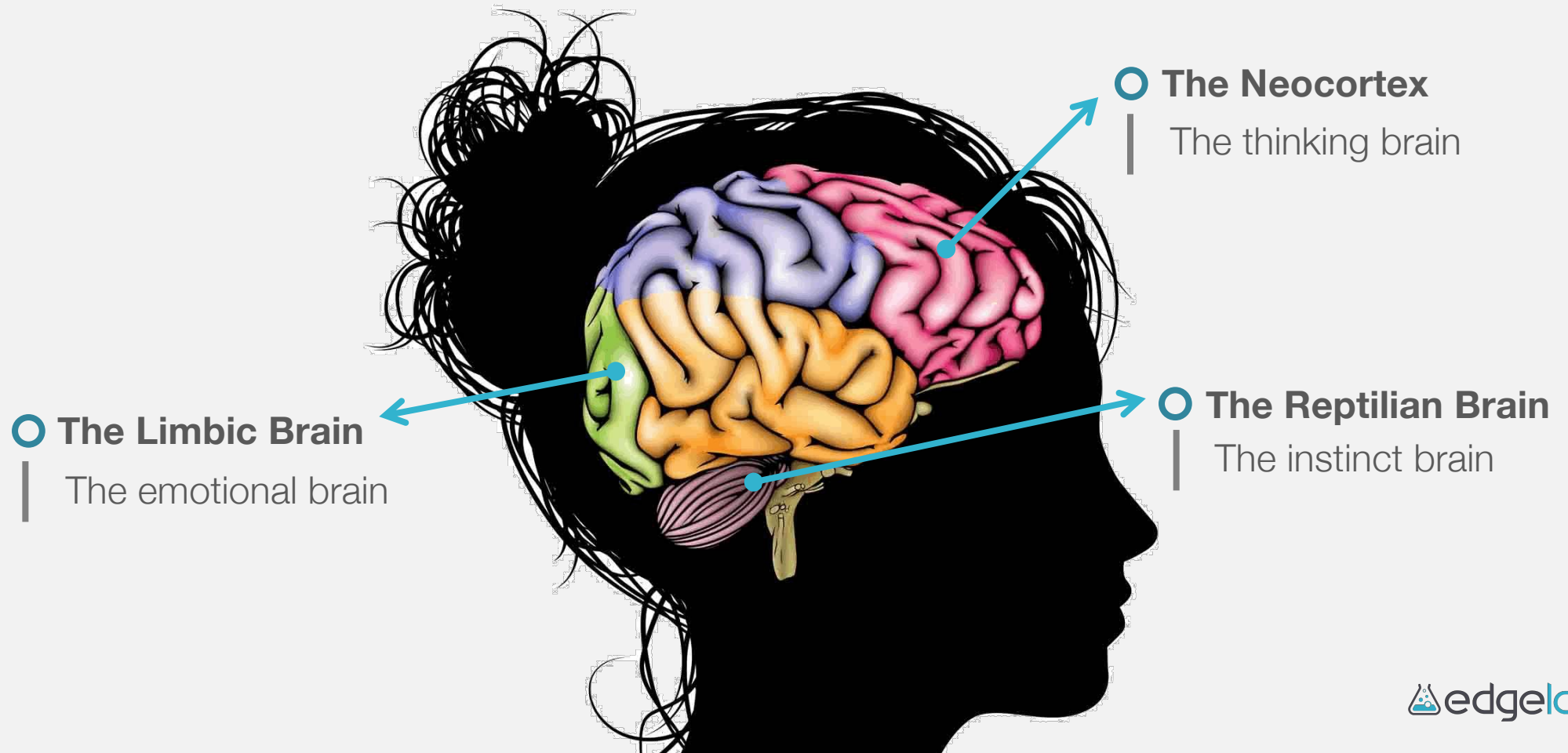
- Identifying and deciphering strategic problems that are worth solving to grow the profitability of the company and deliver for customers, clients and employees
- Different types of organisations have different types of employees and require different types of thinking

Not just about ideas ... it's about understanding, designing, building, testing and delivering new, commercially viable, desirable products and services



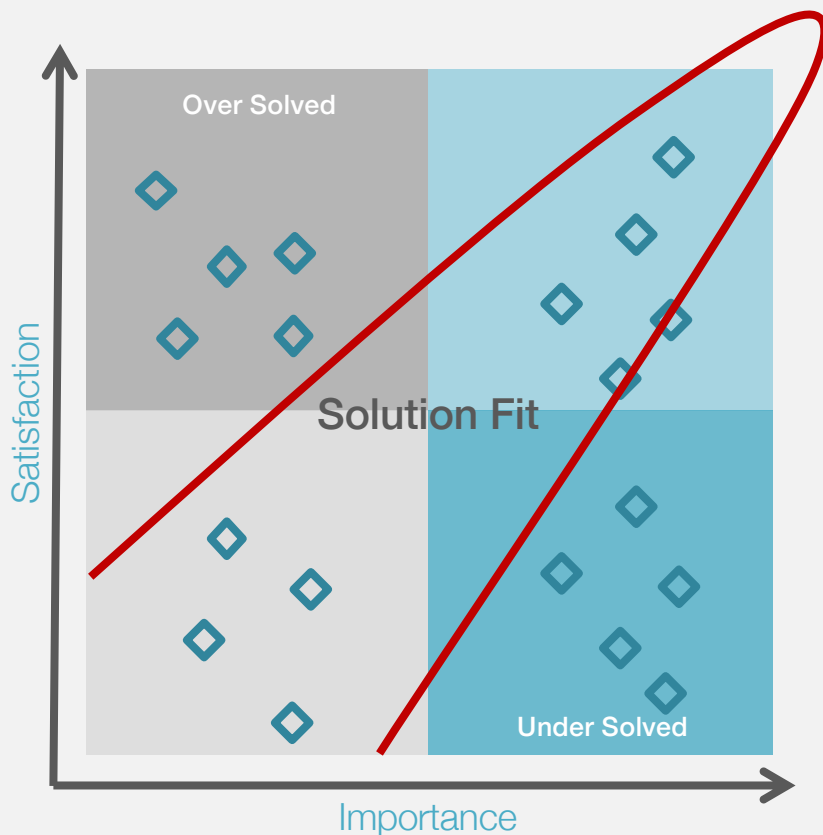
Customers do not know what they want

Beware the brain ...



Problems Worth Solving

Innovation occurs when you identify a problem that is worth solving



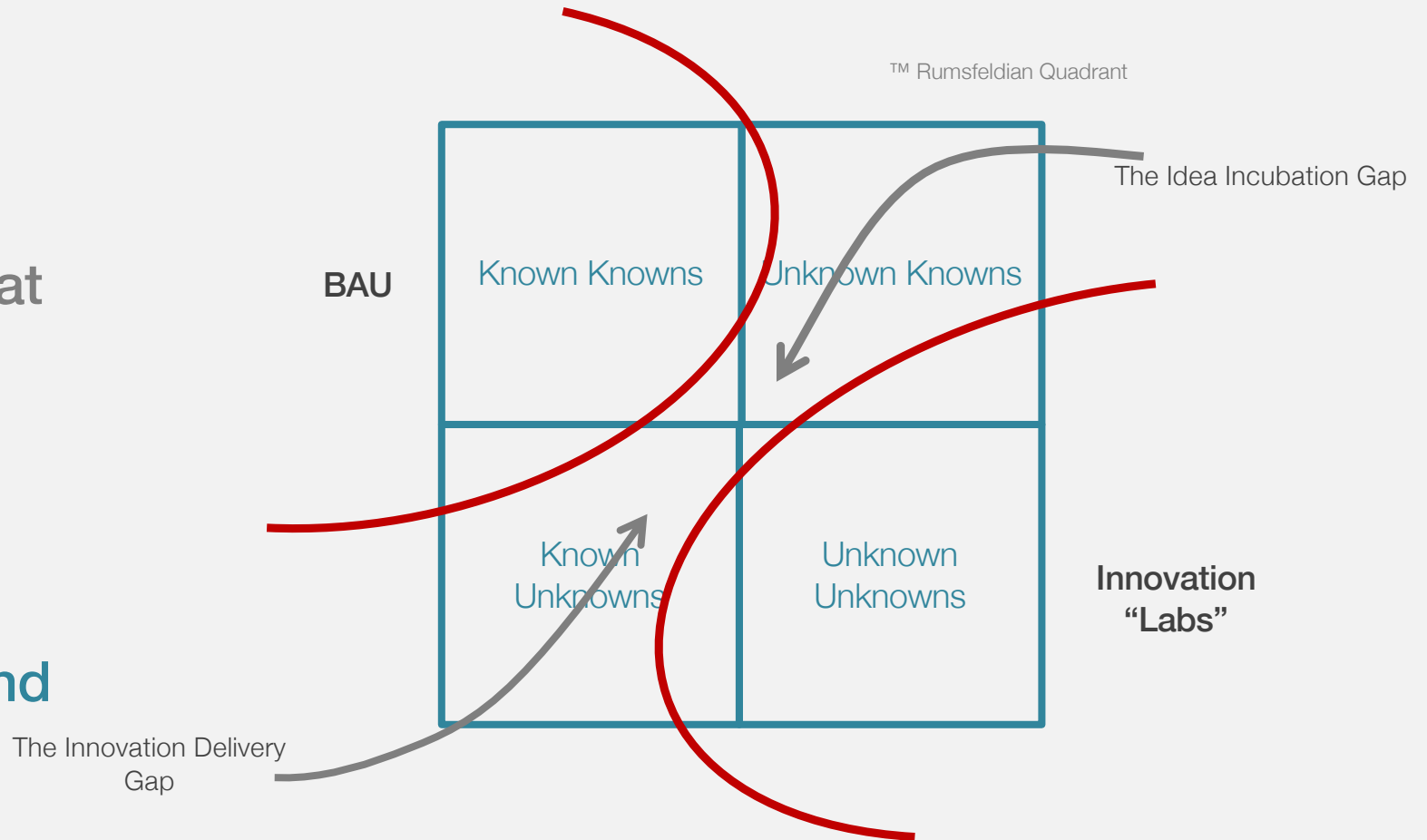
- You ensure that a problem is worth solving by understanding **how important it is to your customers**
- You are looking for **problems that are not solved sufficiently** by existing solutions
- Your goal is to translate this **Problem Worth Solving** into a **Solution Worth Doing** by understanding the customer and their objectives
- Your focus is on the **Job To Be Done***
- This ensures that the customer's expectations are met (or surpassed), and ensures business and technology investment is occurring to support the right activities

* Clay Christiansen

The Rumsfeldian Dilemma ...

Data can help understand what you know, and what you don't know..

Data can also identify opportunities to find problems worth solving



Information technology grows exponentially, doubling every year.

What used to fit in a building, now fits in your pocket.

What fits in your pocket today will fit inside a blood cell in 25 years time ...

- Ray Kurzweil, Author, Scientist & Futurist, 2009

Rate of change of technology

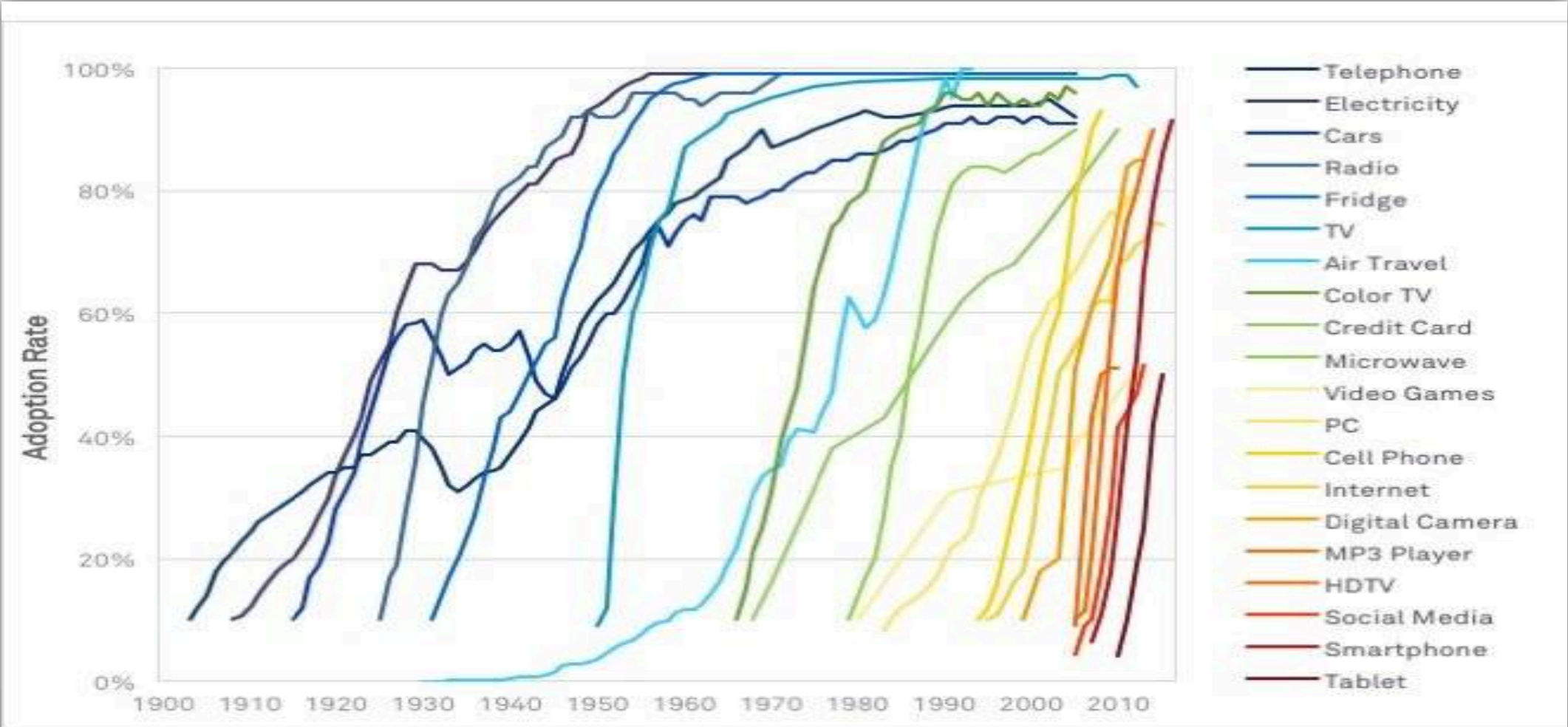


1965: IBM 350 Storage Unit
with 5MB of storage

2016: MicroSD Card with
200GB of storage




Rate of adoption of technology



Source: Asymco

BLACKROCK*



Digital disruption has the potential to threaten
40 per cent of jobs in the next 10-15 years.

- Australian Productivity Commission, 15 June 2016

A dense collage of numerous small, overlapping digital screens or panels. The screens display various abstract and data-related images, including network diagrams, globe-like patterns, charts, and text elements like 'NEWS', 'Business', and 'http://www'. The overall color palette is dominated by blues and teals, with some warmer tones like reds and yellows. The perspective is slightly angled, giving a sense of depth and immersion in a digital environment.

Data is the raw product of the digital economy

Transactions

Customer Profiles

Media

Deliveries

Tax

Media

Employees

Downloads

Traffic

Orders

Events

Web Logs

Weather

History

Spatial

Connections

Social Graph

News

Metrics

Shares & Likes

And more.....



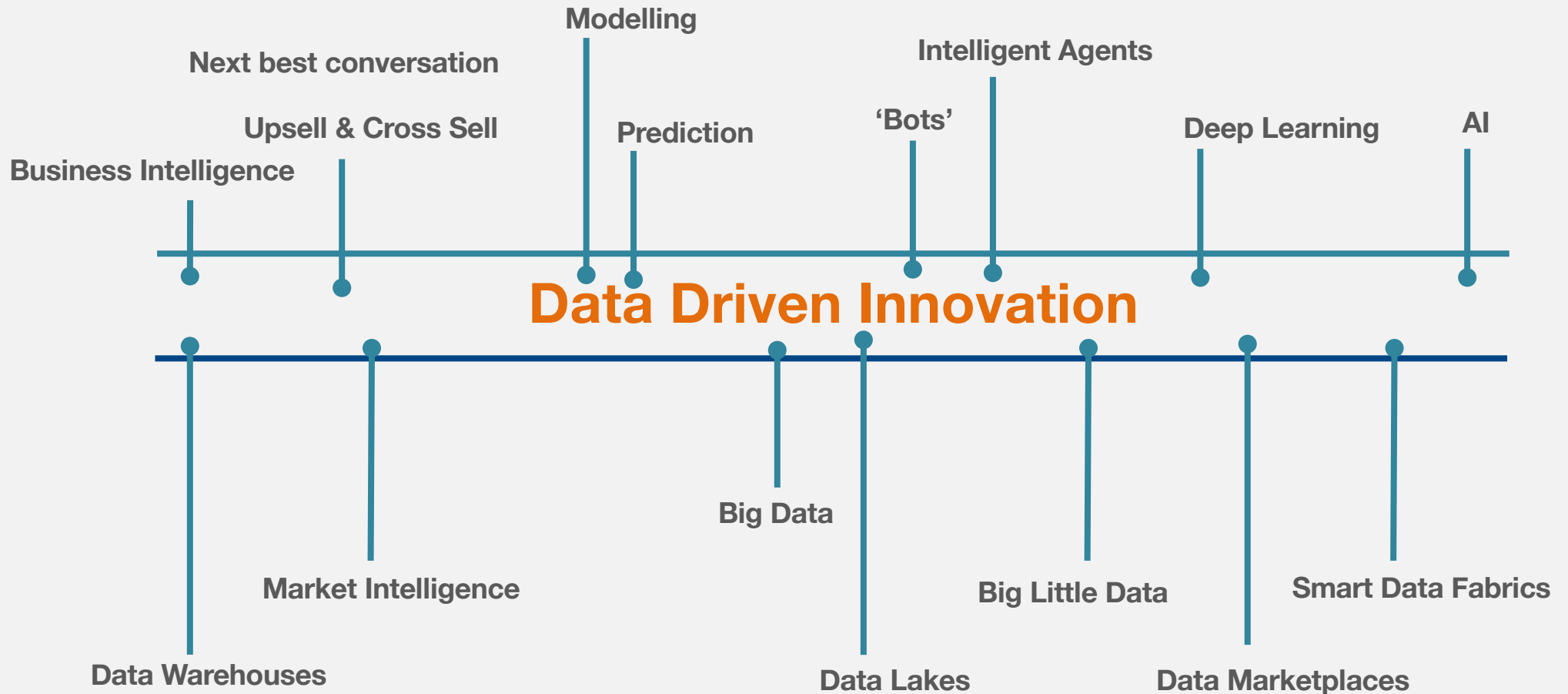
BTW: There is no 'Digital' economy,
its just the 'Economy'... its all digital

API's and integrations are the new normal

```
1. zsh
Last login: Thu Aug 28 15:37:33 on ttys003
~ >>> curl https://subdomain.zendesk.com/api/v2/import
{"subject": "Help", "comments": [{"author_id": "1"}]}
Enter host password for user '-X':
* Adding handle: conn: 0x7f829300aa00
* Adding handle: send: 0
* Adding handle: recv: 0
* Curl_addHandleToPipeline: length: 1
* - Conn 0 (0x7f829300aa00) send_pipe: 1, recv_pipe: 1
* About to connect() to subdomain.zendesk.com port 443
* Trying 108.166.31.242...
* Connected to subdomain.zendesk.com (108.166.31.242)
* TLS 1.0 connection using TLS_RSA_WITH_RC4_128_SHA
* Server certificate: *.zendesk.com
* Server certificate: COMODO RSA Organization Validation Secu...
```



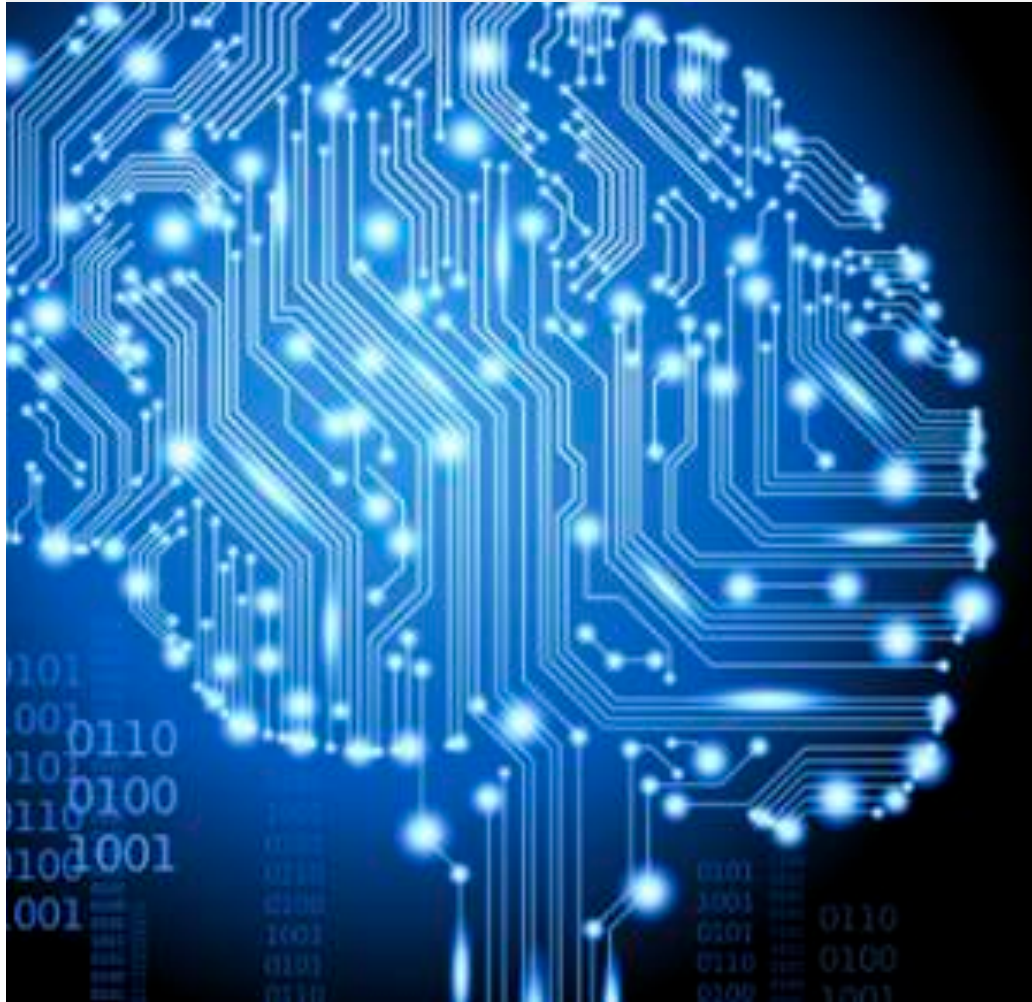
There is a spectrum of data driven innovation



New developments in machine intelligence will make us far, far smarter for everyone on the planet, **everyone gets smarter because of this technology, and the empowerment of people is the secret to technological progress ...**

- Eric Schmidt, Executive Chairman, Google

Artificial Intelligence (AI) ...



All of this data enables models to be built that support:

- **Machine Learning**
- **Artificial Intelligence**

This enables 'bots' or 'agents' to be created that can answer questions, or respond to requests without any human intervention.

In financial services this is known as 'RoboAdvice'

Automation and Artificial Intelligence

○ Jobs already gone ...

- Stock exchange floor traders
- Back room traders

○ Next in line ...

- Private bankers
- Accountants, actuaries & auditors
- Personal wealth managers

... and lawyers

All replaced by ALGORITHMS
and smart applications

The Internet of Things (IoT) ...

Stuff that is connected to the internet that wasn't before

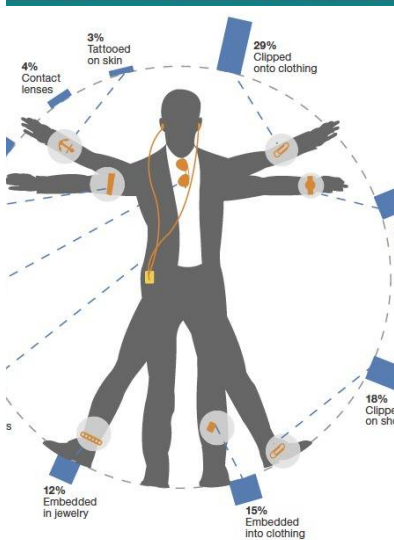
- Environmental Monitoring
- Infrastructure Management
- Energy Management
- Medical Systems
- Healthcare Systems
- Security Systems
- Building Automation
- Home Automation
- Transport
- Manufacturing



The Internet of Things (IoT) ...



- Smart Cities
- Smart Cars and Transport
- Wearables
- Augmentation



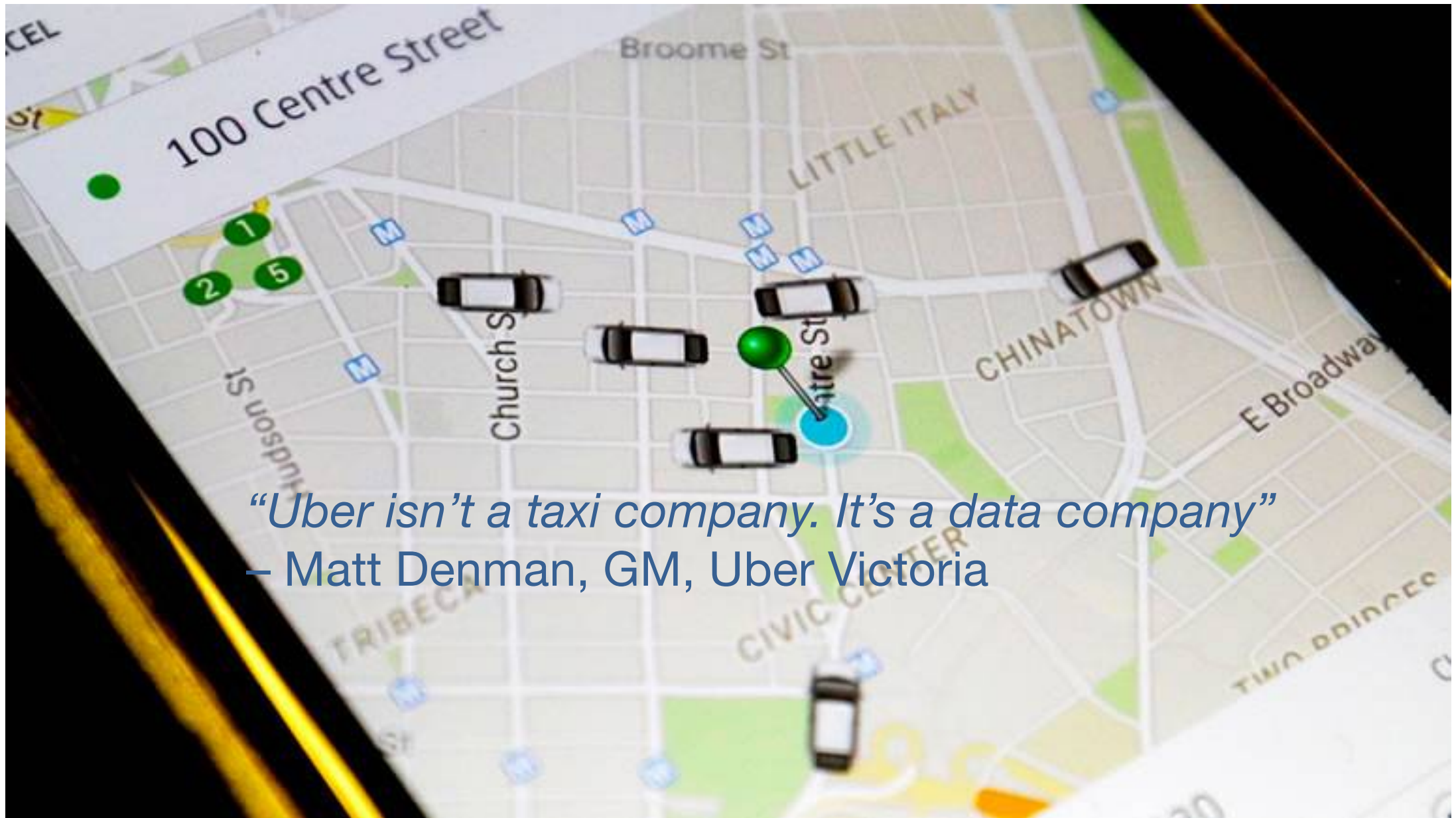
All of these devices, sensors and 'smart things' generate LOTS and LOTS of DATA

In the new world, it's not the big fish that eats the little fish.
It's the fast fish which eats the slow fish.

- Klaus Schwab, Founder & Exec Chairman, World Economic Forum

A photograph of a city street with pedestrians, bicycles, and a yellow taxi. Two Staryu Pokémon are overlaid on the scene, appearing to be on the sidewalk. The text "Google Spatial data + Game = Pokemon Go" is overlaid at the bottom of the image.

Google Spatial data + Game = Pokemon Go



“Uber isn’t a taxi company. It’s a data company”
– Matt Denman, GM, Uber Victoria

Meet the new lawyers ...

ROSS

Your Brand New Artificially Intelligent Lawyer

- Hired by US firm Blake & Hostetler for its bankruptcy service in May 2016
- **Built using IBM's Watson AI Platform**
- Replaces paralegals, 'grunt work' and provides advice on cases
- Lowers barrier of entry for getting access to legal advice
 - **80% of Americans cannot afford a lawyer despite a surplus of lawyers**
- ROSS constantly monitors for new judgments, instantly adapts approach

Meet the new lawyers ...

DoNotPay - the “chatbot” lawyer

- Overturned **160,000 parking tickets** in NY & London
 - Case load of 250,000
 - **Success rate of 64%**
 - Takes 30 seconds
 - Completely free
- **Tickets worth a combined US\$ 4 million overturned in just 21 months**
- Created by a 19yro with a natural “chat-like” interface
- Next in line is Seattle plus an interface to allow other places to add in local laws

Accounting processes that could be automated

○ Simple processes

- Audit administration
- Audit documentation
- Audit planning & scheduling
- Audit support
- Data entry
- Issuing tax certificates

○ Complex processes

- Asset analysis
- Compliance reporting
- Statutory reporting
- General ledger analysis
- Multiple currency adjustment
- Trend analytics

○ Moderate processes

- Bank reconciliation
- Debtor audits
- Issuing audit certificates
- Period reporting
- Risk assessment & audits
- Vendor reconciliation

○ Artificial intelligence

- Fraud analytics
- Human resource alignment
- Model inventory & prediction
- Period end closing
- Risk management
- Advanced data analytics

NEW YORK

Monday Tuesday Wednesday Thursday Friday Saturday Sunday



SAN FRANCISCO

Monday Tuesday Wednesday Thursday Friday Saturday Sunday



CHICAGO

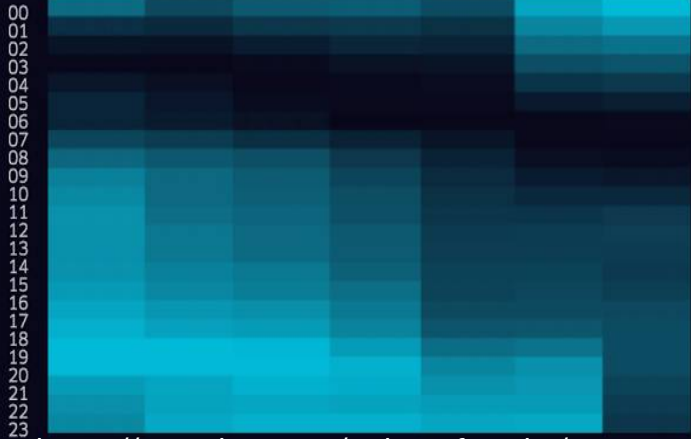
Monday Tuesday Wednesday Thursday Friday Saturday Sunday



Uber mapping 'The Pulse of a City'

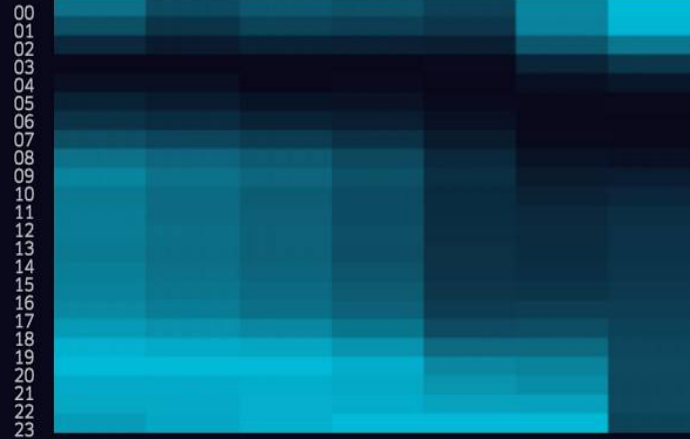
MIAMI

Monday Tuesday Wednesday Thursday Friday Saturday Sunday



LOS ANGELES

Monday Tuesday Wednesday Thursday Friday Saturday Sunday



LONDON

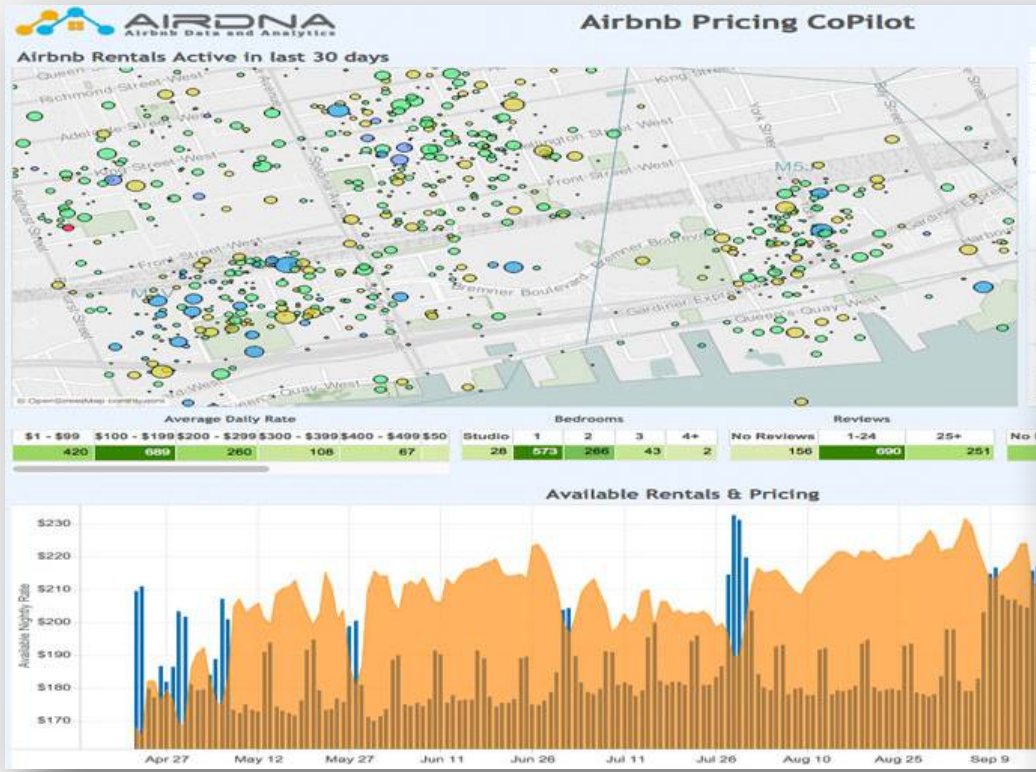
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<https://eng.uber.com/pulse-of-a-city/>



The Alexa Skills Kit is a collection of self-service APIs, tools and code samples that make it fast and easy for to add 'skills' & custom integrations to Alexa.



Neighborhood: (All)

	S	M	T	W	T	F	S
April	24	25	26	27	28	29	30
	1	2	3	4	5	6	7
May	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				

sydney

Dates: 30-09-2016 to 02-10-2016, 2 Guests

Room Type: Entire home/apt, Private room, Shared room

Price Range: \$26 AUD to \$3,000 AUD+ (Average: \$345 AUD)

Filters: Only 16% of listings are left for these dates. We recommend booking a place soon.

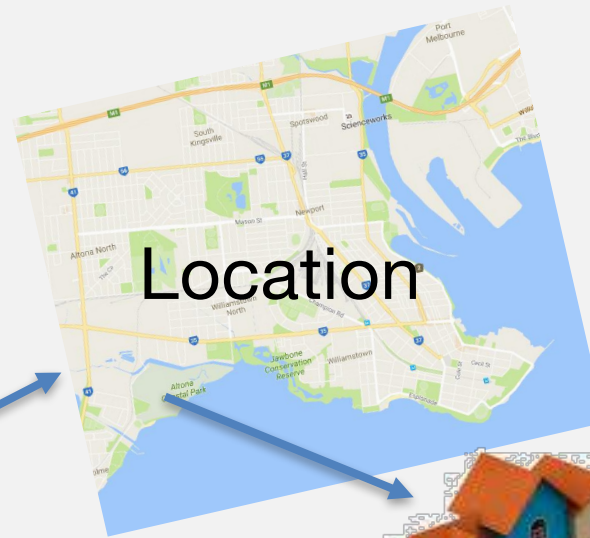
Price shown is the total trip price, excluding taxes.

- Room in a modern apartment: Private room - 2 guests - 12 reviews - \$133 AUD Total
- Resort Style-Gym, Pool/Spa,ten...: Private room - 2 guests - 4 reviews - \$368 AUD Total
- Cosmopolitan living in Darlinghurst - Darlinghurst Apartment

Map showing prices: \$133 AUD, \$368 AUD, \$223 AUD, \$290 AUD, \$268 AUD, \$277 AUD, \$190 AUD, \$223 AUD, \$210 AUD, \$210 AUD.

AirDNA is a set of services that analyse AirBnB rentals in each city to maximise returns for owners.

Example: Big 'Little' Data



Types of delivery



Market insights

Using data as a 'sensor'

Products as 'Sensors'



- Tesla capture detailed information on drivers, roads to enable them to develop and enhance their self driving technologies



- Apple and other wearable platforms capture information on the wearers health to track activity, and provide diagnostics



- Supermarkets do sophisticated analysis of shopping baskets to understand demand patterns, propensity and price sensitivity



Data Driven Innovation can create the new
‘canaries in a coal mine’ for a digitally enabled economy

Robots & Drones



○ Disrupted Jobs:

Delivery drivers, courier drivers, security guards, front desk staff ...

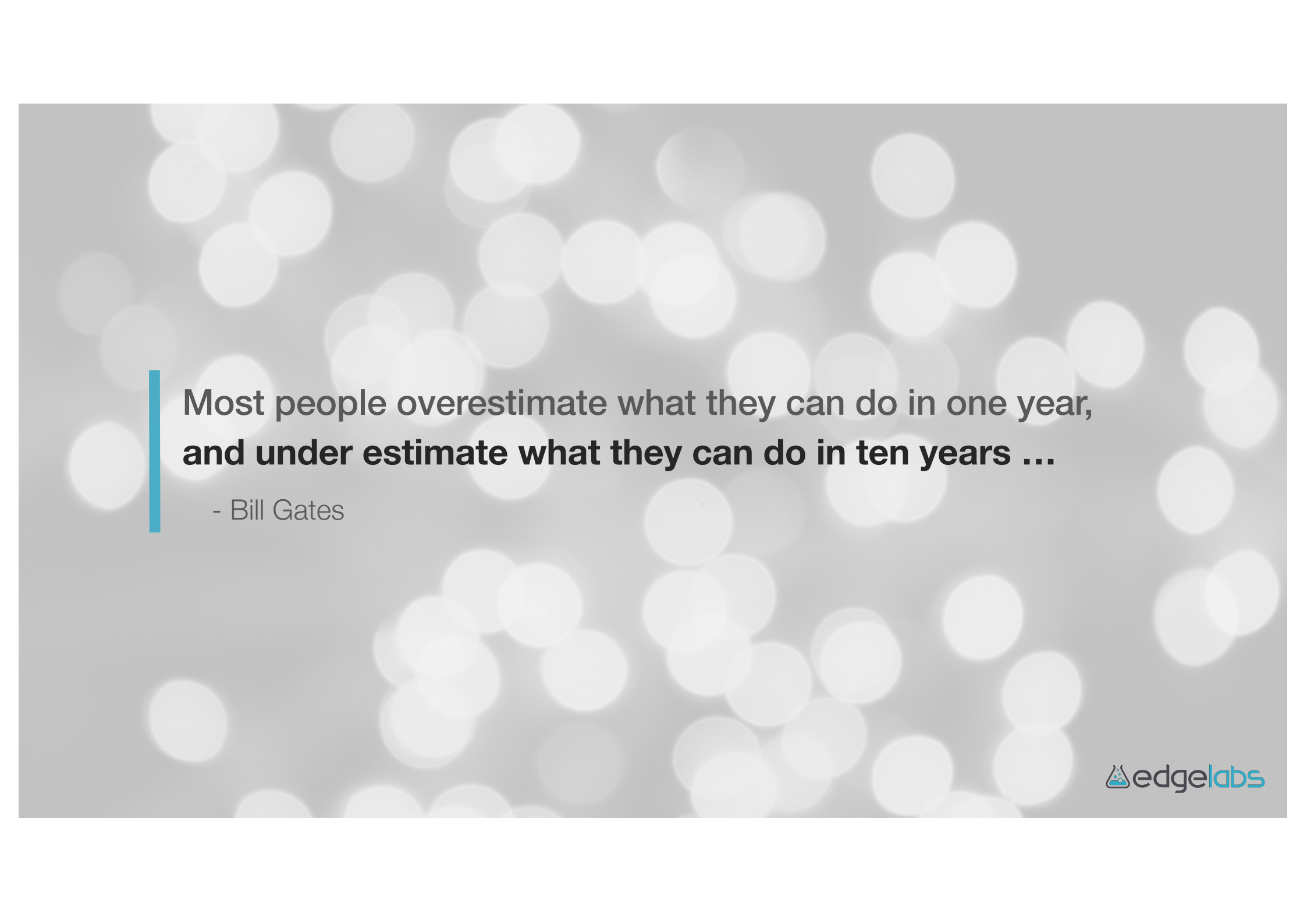
○ Follow-on:

Fewer human-driven vehicles needed, fewer jobs for teens ...

But ...

Data driven disruption and automation creates opportunities for new business models, products and services ...

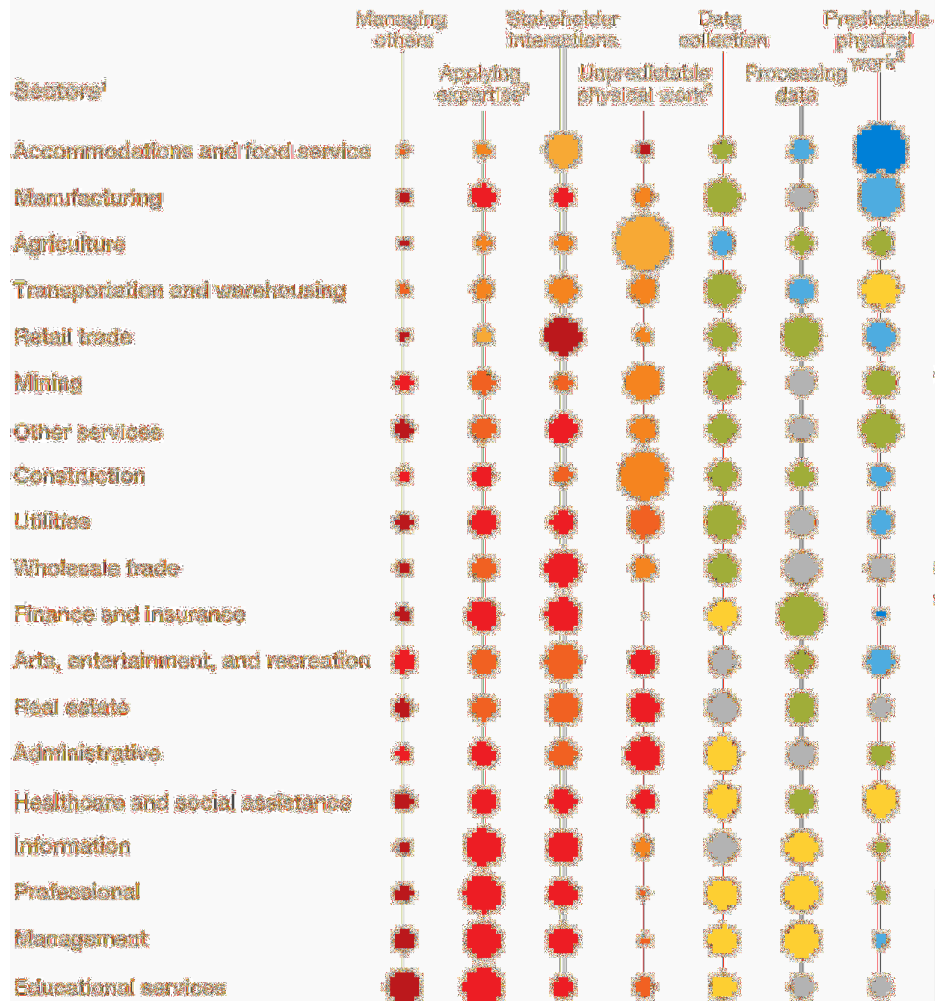
But, so what ??



**Most people overestimate what they can do in one year,
and under estimate what they can do in ten years ...**

- Bill Gates

The potential for Data Driven Automation



In practice, automation will depend on more than just technical feasibility. Five factors are involved: technical feasibility; costs to automate; the relative scarcity, skills, and cost of workers who might otherwise do the activity; benefits (eg. superior performance) of automation beyond labor-cost substitution; and regulatory and social-acceptance considerations.

¹Agriculture includes forestry, fishing, and hunting; other services excludes federal-, state-, and local-government services; real-estate includes rental and leasing; administrative includes administrative support and government administration; healthcare and social assistance includes private, state-government, and local-government hospitals; professional includes scientific and technical services; educational services includes private, state-government, and local-government schools.

²Applying expertise to decision making, planning, and creative tasks.

³Unpredictable physical work (physical activities and the operation of machinery) is performed in unpredictable environments, while in predictable physical work, the environments are predictable.

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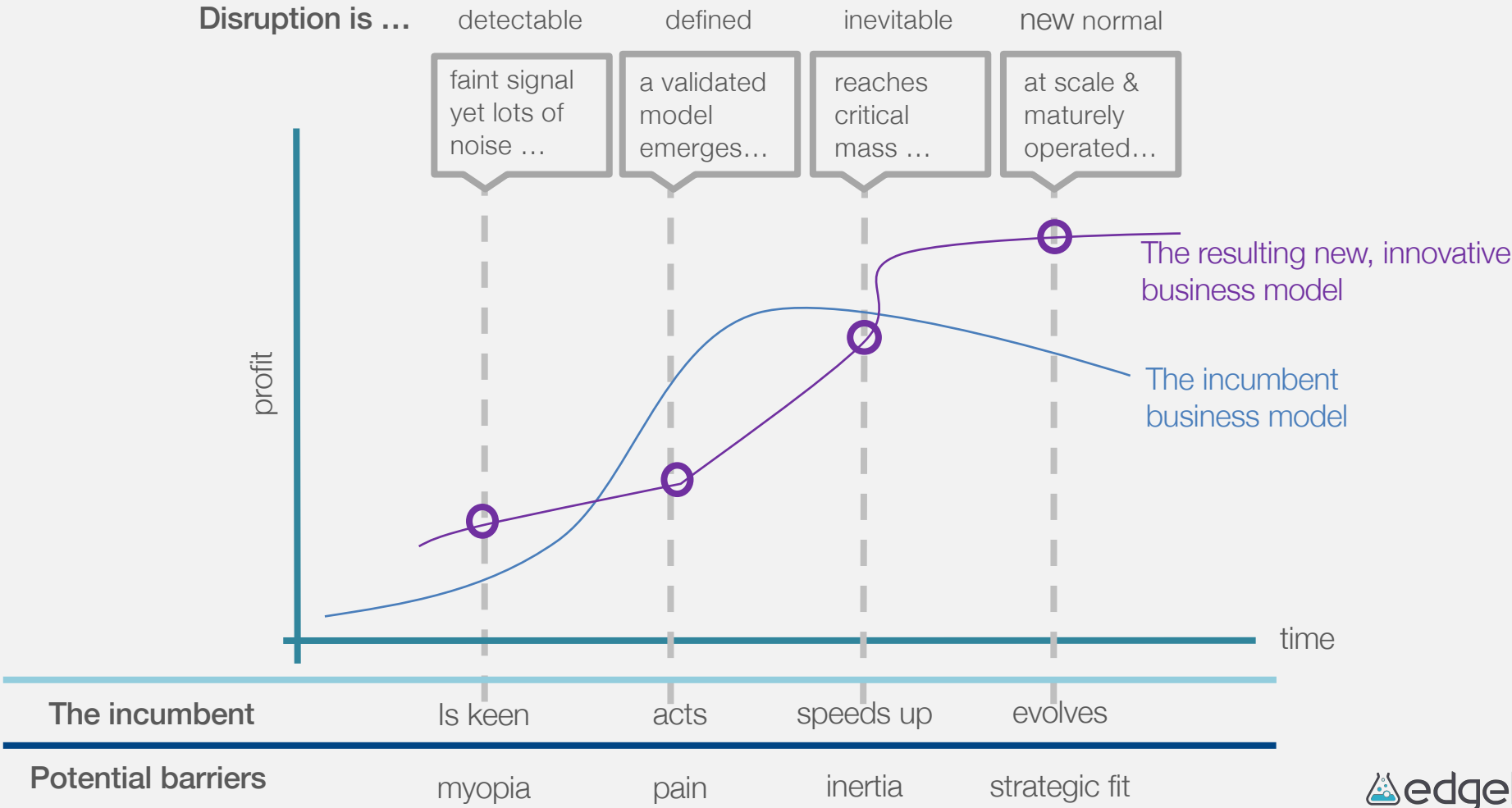
Start-ups are driving changes to industry models

- Disruption of current capital intensive industries is happening everywhere
- Traditional business models may no longer apply
- New business models track the new opportunities by understanding the drivers behind the customer experience and understanding the data

What if another company gave away the services that you sell ... for free?

How would you react?

Disruption creates a new business journey

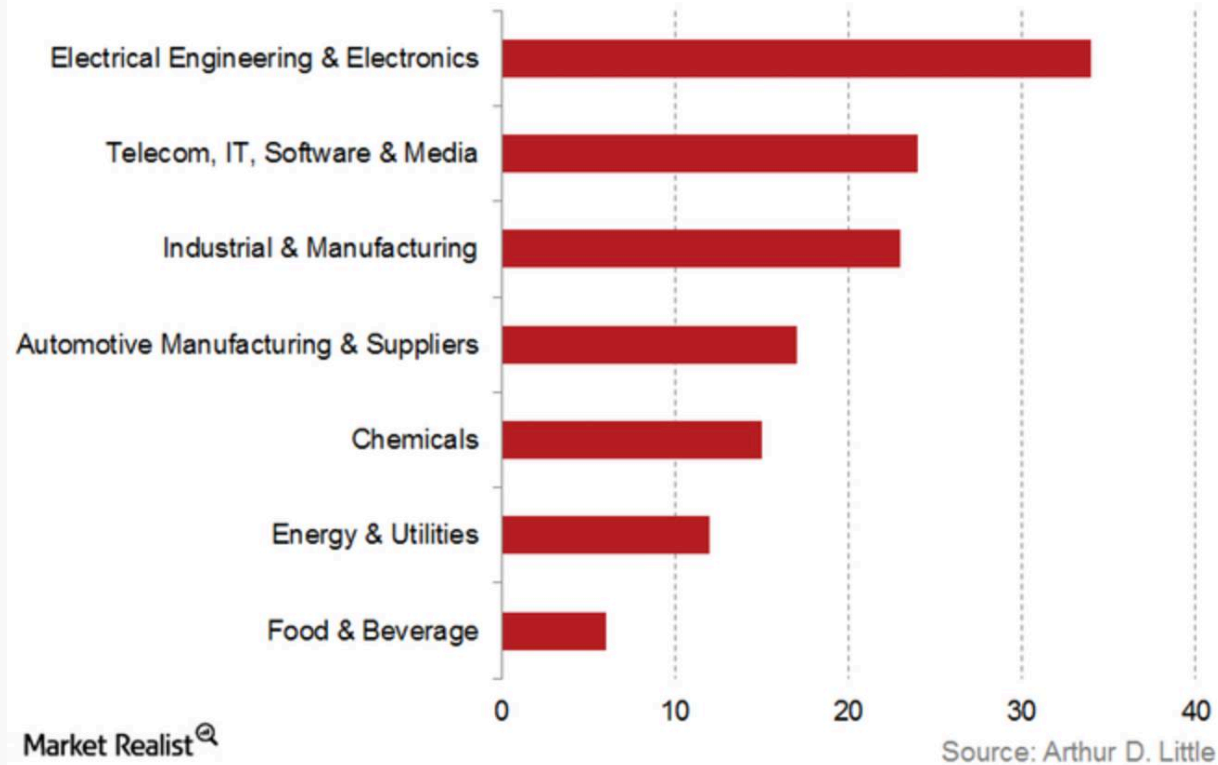


If I have an hour to solve a problem and my life depends on finding the solution, I'd spend the **first 55 minutes determining the proper line of inquiry ... once I know how to state the question, the answer would follow in the remaining five minutes**

- Albert Einstein

Innovative companies thrive ...

Percentage Point difference in Share of Turnover From New Products & Services Between Top Innovators & Others



Top innovative companies achieve, on average, 19% more revenue from new products and services *MarketRealist

Conclusions...

- Move towards being a **customer-centric organisation**
- Leverage Data assets (yours, and the data of others)
- Evolve from small incremental changes to considering **disruptive innovation**
 - Innovate from a customer & data-led perspective
 - Cultural and organisation mindset
 - Be the thought leader and act like a thought leader
 - Build the ecosystem and represent the change your membership companies need to embrace

Existing enterprises should invest in innovation and build the new factory whilst optimising the current factory



**Ideas without actions,
are regrets ...**

- Steve Jobs



Advise.Incubate.Execute

Our story ...

Founded four years ago, edgelabs are a specialist innovation consultancy built to provide the very best independent and expert **Advisory** services to our clients, supported by the hands on skills needed to test and **Incubate** this advice and successfully **Execute** and to see it delivered at scale

The edgelabs team are founders of successful listed US, European and Australian based start-ups, senior and C-suite executives who are supported by specialists in technology, data, product development, marketing, communications and customer-centric design

With deep skills across a broad range of disciplines, edgelabs have created a substantial portfolio of original intellectual property which has contributed to our role in seeding start-ups and innovation initiatives within enterprises that have delivered transformations in capabilities, culture and customer experiences

Our portfolio of clients include Jetstar, Telstra, Nab, CBA, ME Bank, Nextgen Networks, the Victorian Government, CareConnect, Australia Post, Yammer, Jemena Networks, Suncorp, Salesforce.com and MYOB

All of our work has been sponsored, discussed and reviewed at a CEO or board level, and includes the development of Telstra's Big Data strategy, CBA's mobile strategy, AusPost's digital customer experience strategy, Nab's product innovation strategy, MYOB's Shared IT Services restructure, ANZ's Innovation pipeline, ANZ's partnership with Xero, The Victoria Government's innovation strategy, Nab's private cloud initiative, Nab's Asia platforms, Jemena's asset management strategy, Suncorp's customer engagement and marketing strategy and Nextgen's 15x15 strategy

What we believe ...

ADVISE ○ We believe that the best advice is independent, open and honest

To ensure this, edgelabs partners with customers first before introducing any specialists, vendors and service providers in order to access additional capabilities, and we establish a clear understanding of goals with our customers before undertaking any engagements

INCUBATE ○ We believe that new capabilities and change can be implemented rapidly and effectively

Through the use of customer centric design and rapid iteration, edgelabs incubates new capabilities across organisations, product portfolios and markets, quickly establishing the fundamentals for innovation, transformation and rapid execution

EXECUTE ○ We believe that agile teams working to a common focus deliver strong outcomes

Blending edgelabs, customer and strategic partner capabilities and defining clear goals against strong design and delivery principals, we ensure that teams deliver concrete results using agile methods and an approach of continuous delivery

What we deliver ...

Strategy & Advisory

Capability Incubation

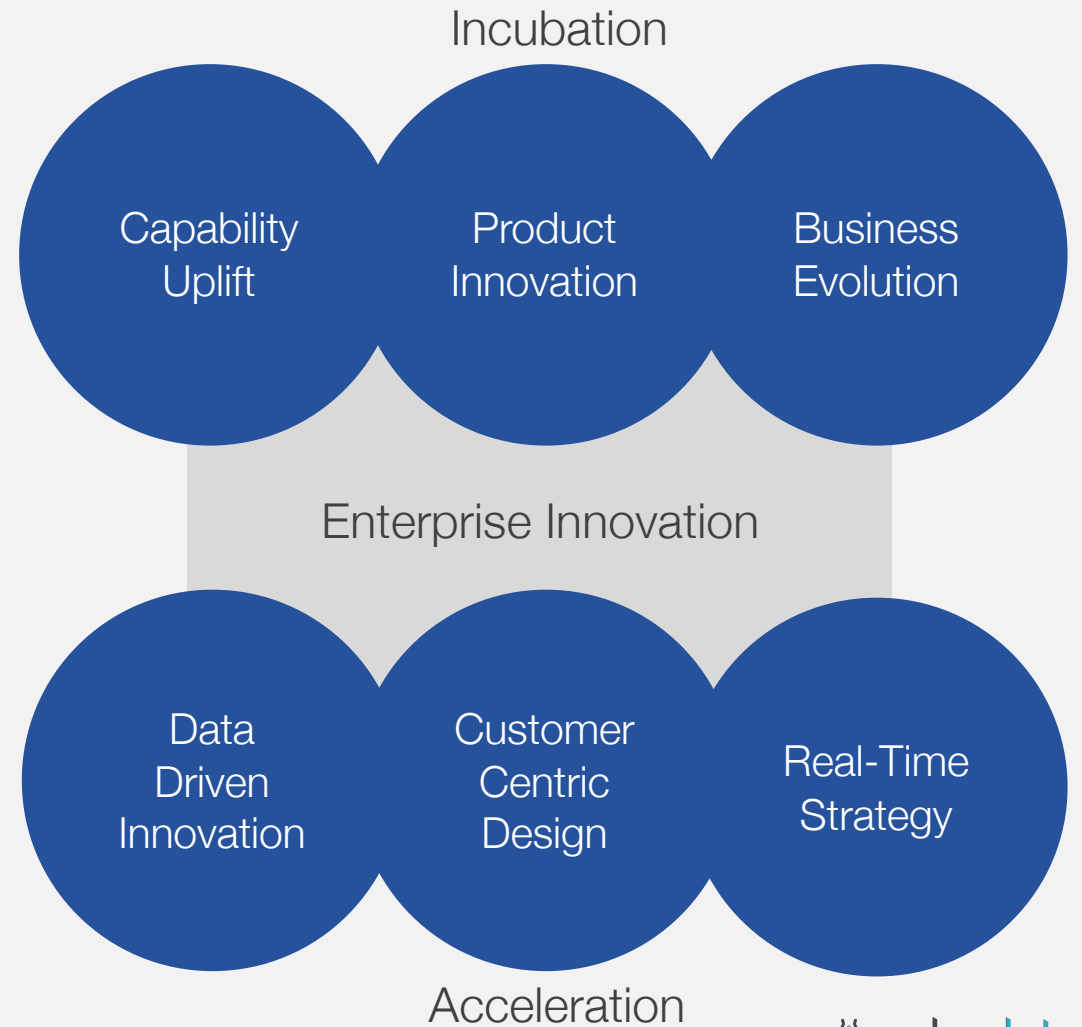
Product Design & Delivery

Data Sciences & Analytics

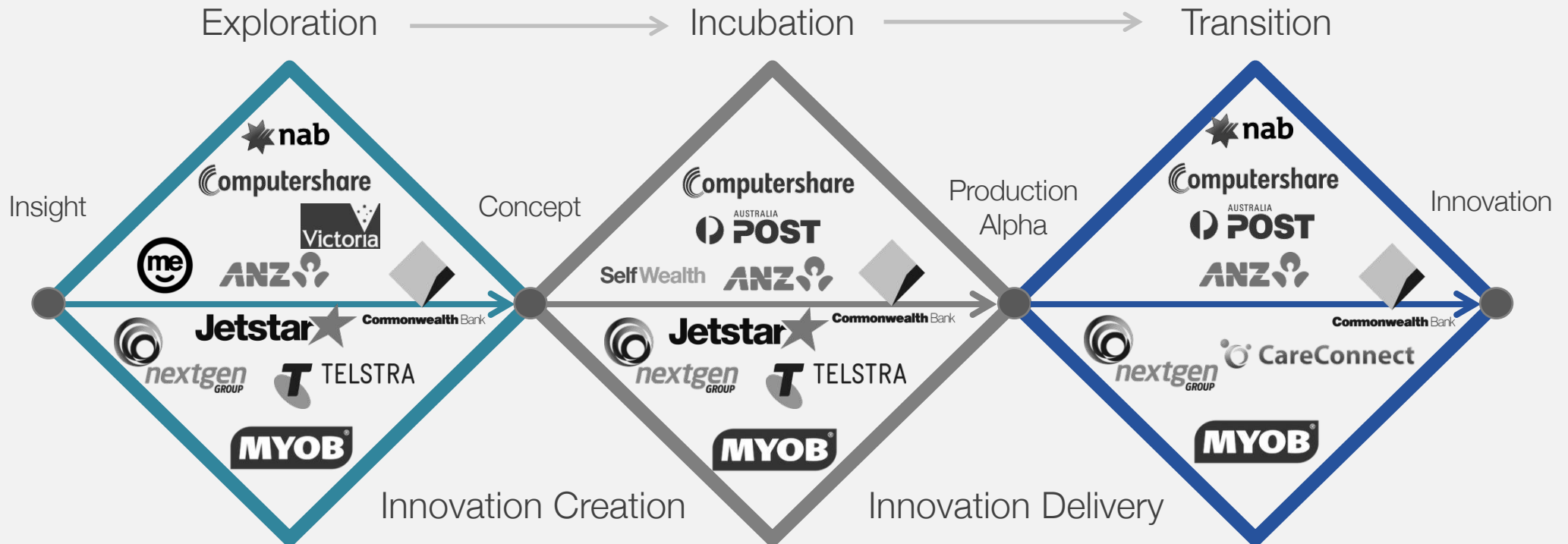
Innovation Design

CX, UX, EX, OX & PX

Development & DevOps



We have done this before^{*} ... (we are doing this now)



We understand the challenges & complexity of enterprise

* TM Triple Diamond Thinking

We have been in the engine room

Key team members ...



Stuart Hudson

Partner and CTO, a renowned technologist with experience across financial services, telecommunications, utilities, health and retail in Australia, US, Europe and Asia-Pacific.

Simon Spencer

Founder of edgelabs, with a 20yr career across financial services, telecommunications and technology sectors in Australia, the US and Asia-Pacific leading innovation and product development within both start-ups and enterprise.



Jen Storey

Partner and CXO, a renowned innovation, marketing and product expert with experience across financial services, insurance, retail and FMCG in Australia and the US.

Ash Fanning

Senior Associate with a career across retail, financial services, and health sectors, an expert in customer-centric design, innovation and go-to-market strategy.



Adam Todhunter

Partner and Practice Lead, with a extensive record and outstanding reputation as COO CIO and senior executive within Enterprise and Government



Greg Collier

Partner, is an experienced people leader, business manager, executive coach, facilitator and consultant with experience working throughout Australia and internationally in Dubai, Singapore, Vietnam, China, Hong Kong, India, Pakistan, New Zealand, The Philippines and Fiji.




Dominic Collins

Senior Associate with a career across financial services, telecommunications and not-for-profit sectors in Australia, an expert in data analysis, financial analysis, and commercial strategy.



Alastair Pryor

Senior Associate and Former Victorian Young Entrepreneur of the Year, has a wealth of real-world experience gained from founding and running startups. He has expert knowledge in taking ideas from concept through to reality.



The future, as always
belongs to the brave

- Bill Bernbach, the “B” in DDB

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