

Presentation by

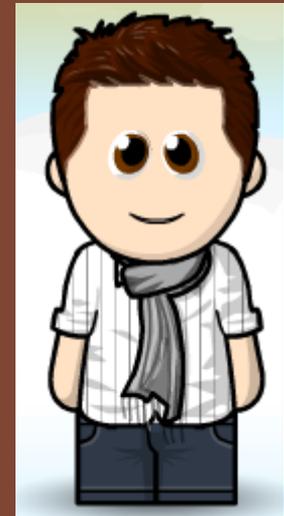
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Strategy and
Operations
Management**

**Work
undertaken with
Wood, Z.,
Carruthers, J.,
Rose, K.**

2017

Digital Business Models: personal transportation



Overview

- Innovation, Value and business models
- How technology disrupts transport in London
- Future digital transport strategy

‘Resources are not; they become’

Erich W. Zimmermann, economist 1930s

- Proposition is frequently presented as inherently valuable
 - focus on value in exchange
 - “...it is never resources themselves that are inputs in the production process, but only the services that the resources can render...” Penrose, 1959
- S-D logic: value realised in use and context
 - Individuals and contexts are inextricably linked & partially defined one another



An offer needs to be in the market before we can understand customer value

Innovation and disruptive technologies

- Innovations improve performance of established business offerings based upon customer value
- 'Disruptive' technologies unexpectedly displace established technology
- Sustaining/incremental innovations foster improvement in offerings
 - Market incumbents frequently best at exploiting sustaining technology
- Disruptive innovations bring a different value proposition
 - Changes multiple elements of the business model
 - Generally initially underperform established offers
 - Typically cheaper, simpler, smaller, and more convenient



Disruptive Technology term coined by Professor Clayton Christensen "The Innovator's Dilemma"

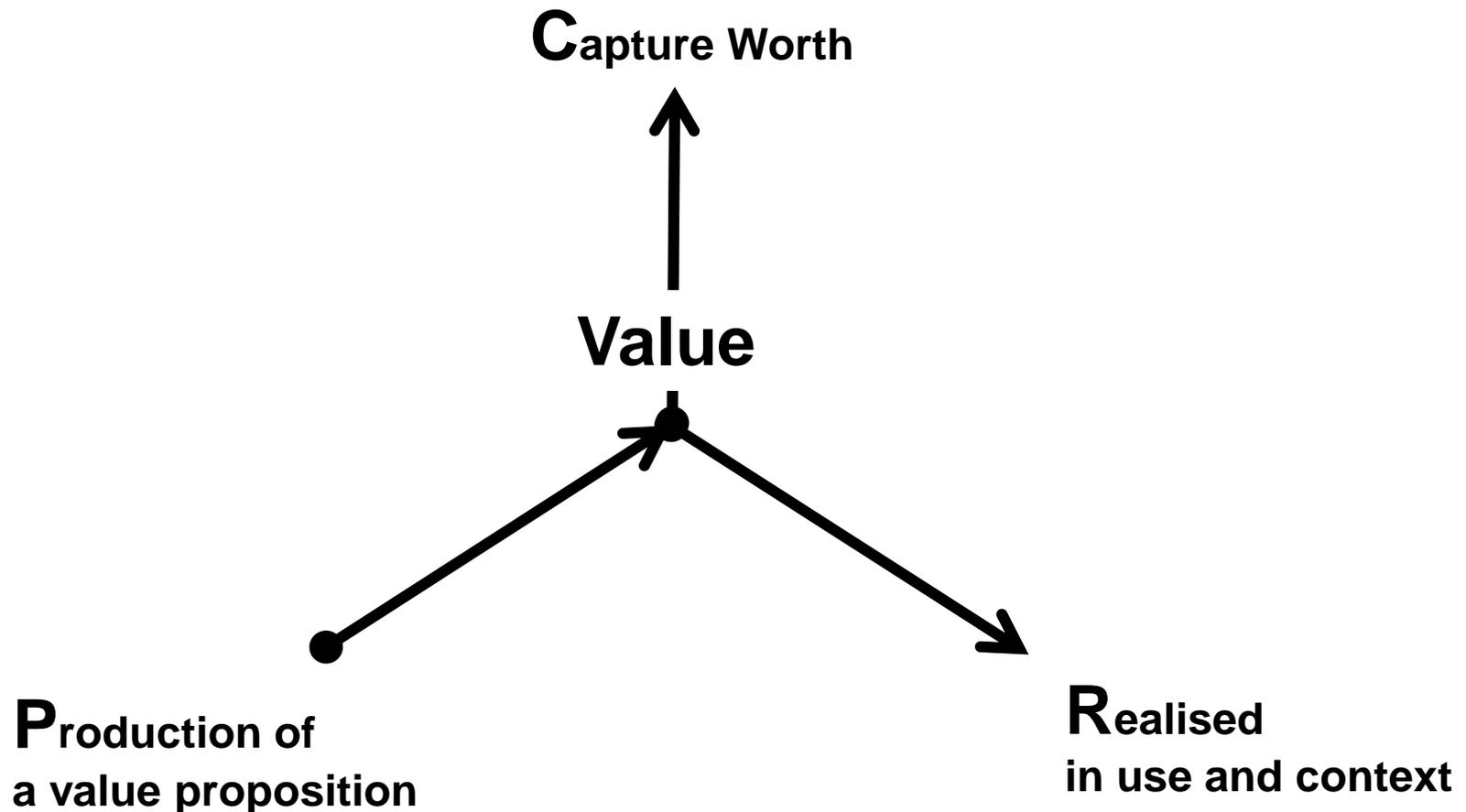
What is a Business Model?

- *The design of the value creation, delivery and capture mechanism employed by an enterprise to entice customers to pay for **value** and convert those payments to profit*
Teece, 2010
- *The rationale of how an organisation creates, delivers and captures **value***
Osterwalder and Pigneur, 2009
- *A set of generic level descriptors that captures how a firm organises to create and distribute **value***
Fuller & Morgan 2010

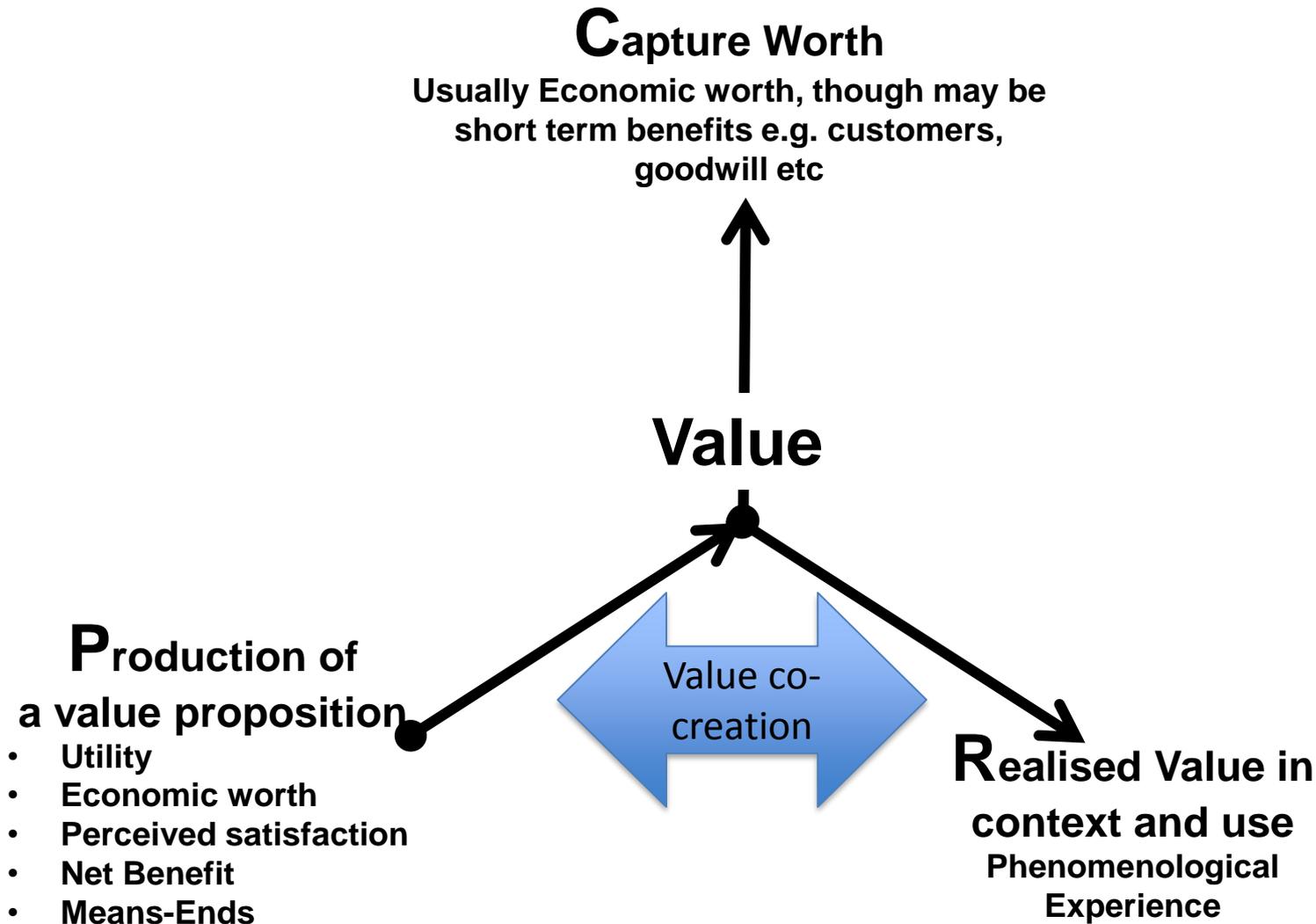
Value is a measure of ‘good’

- Money is only a proxy for value
 - and not a good one
- Worth (money) may be captured at different times and in different ways
- Phenomenological Experience Value is realised when a consumer uses your offering
 - Value changes dynamically with context

The basic business model framework shows value creation and capture

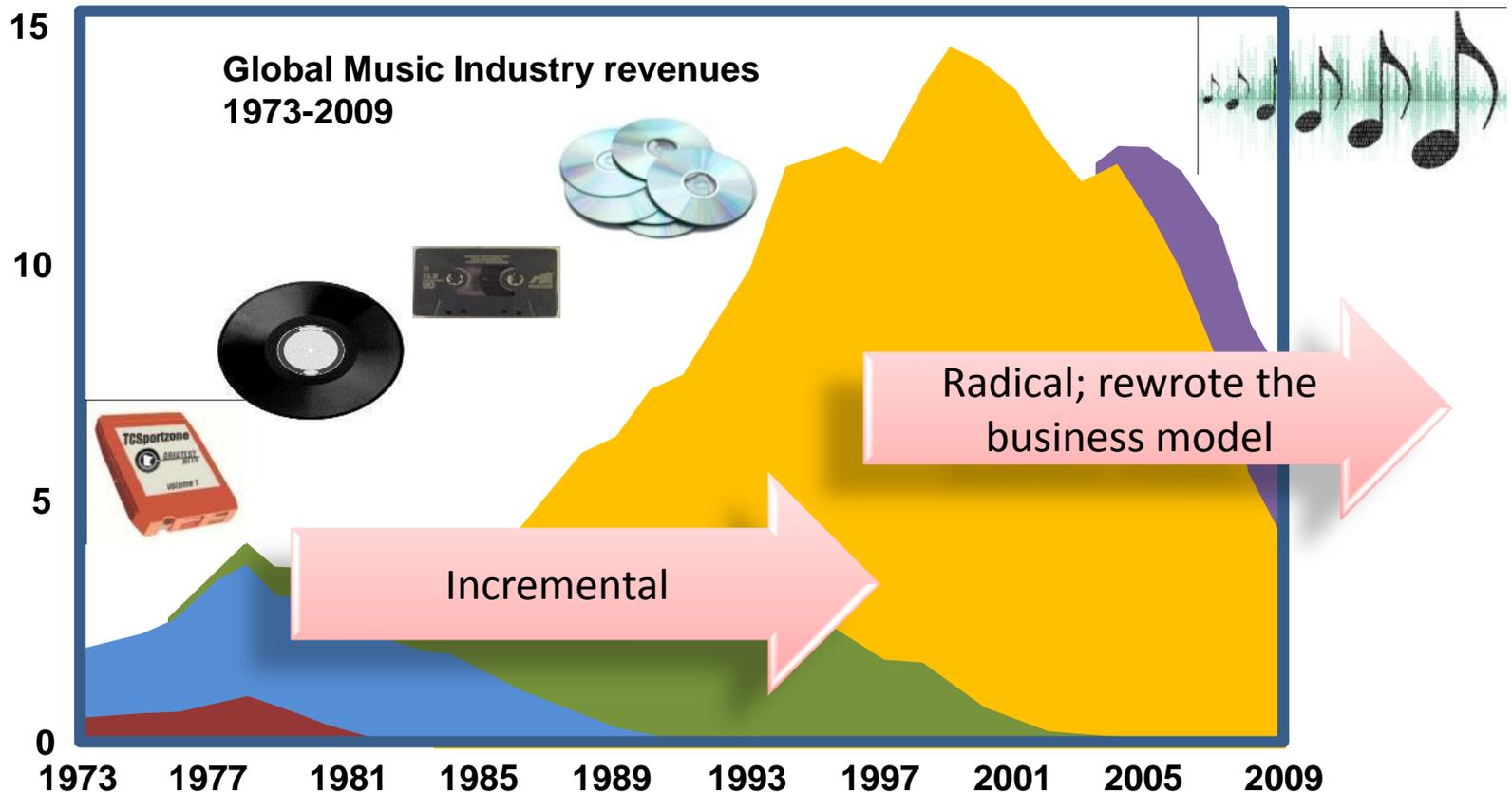


Value in the business model

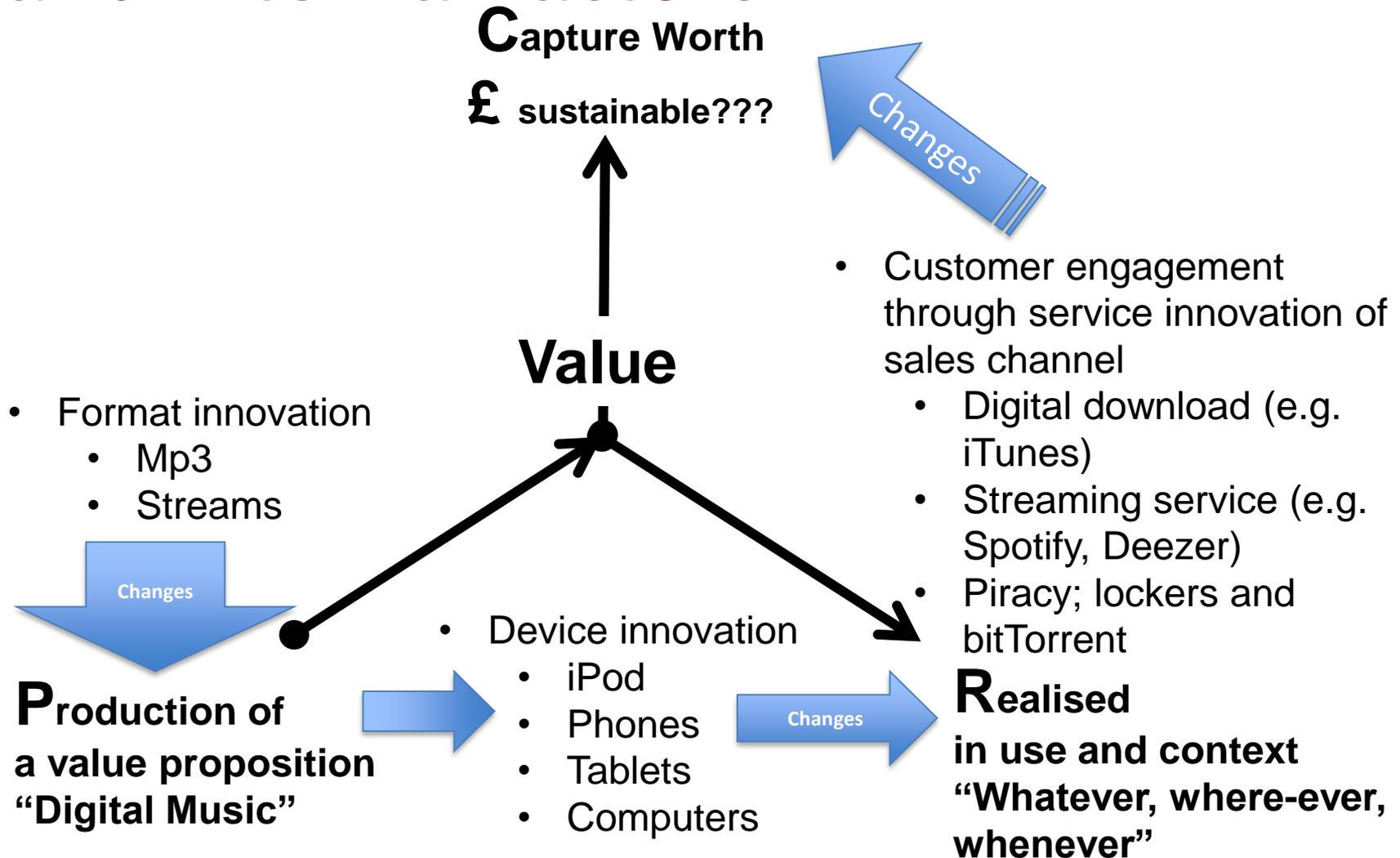


Example of how innovation impacts value (£) in music

Billions US\$

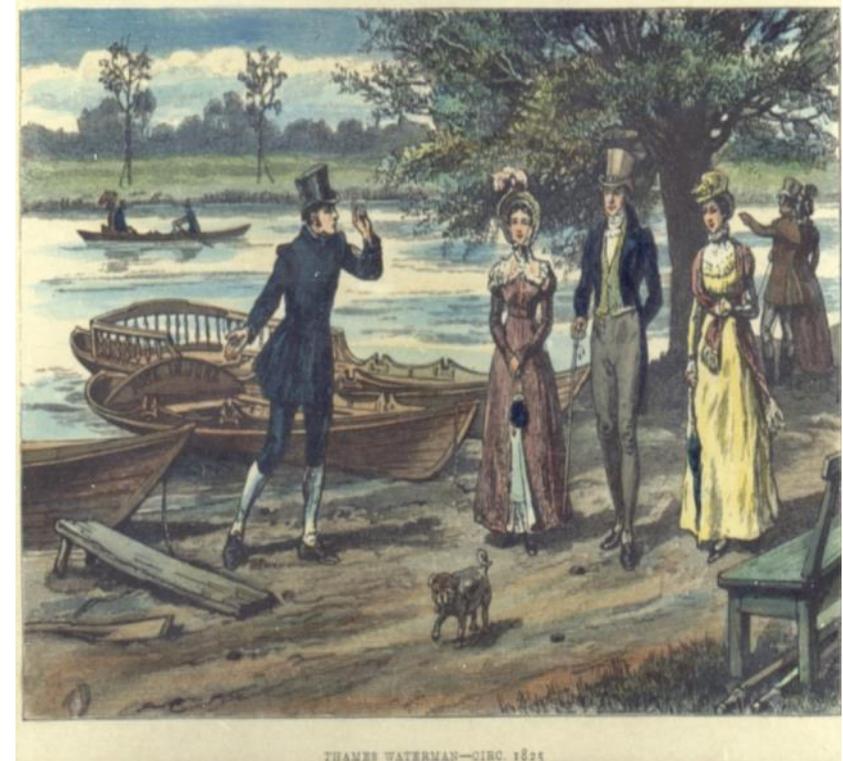


Change is driven by external and internal factors

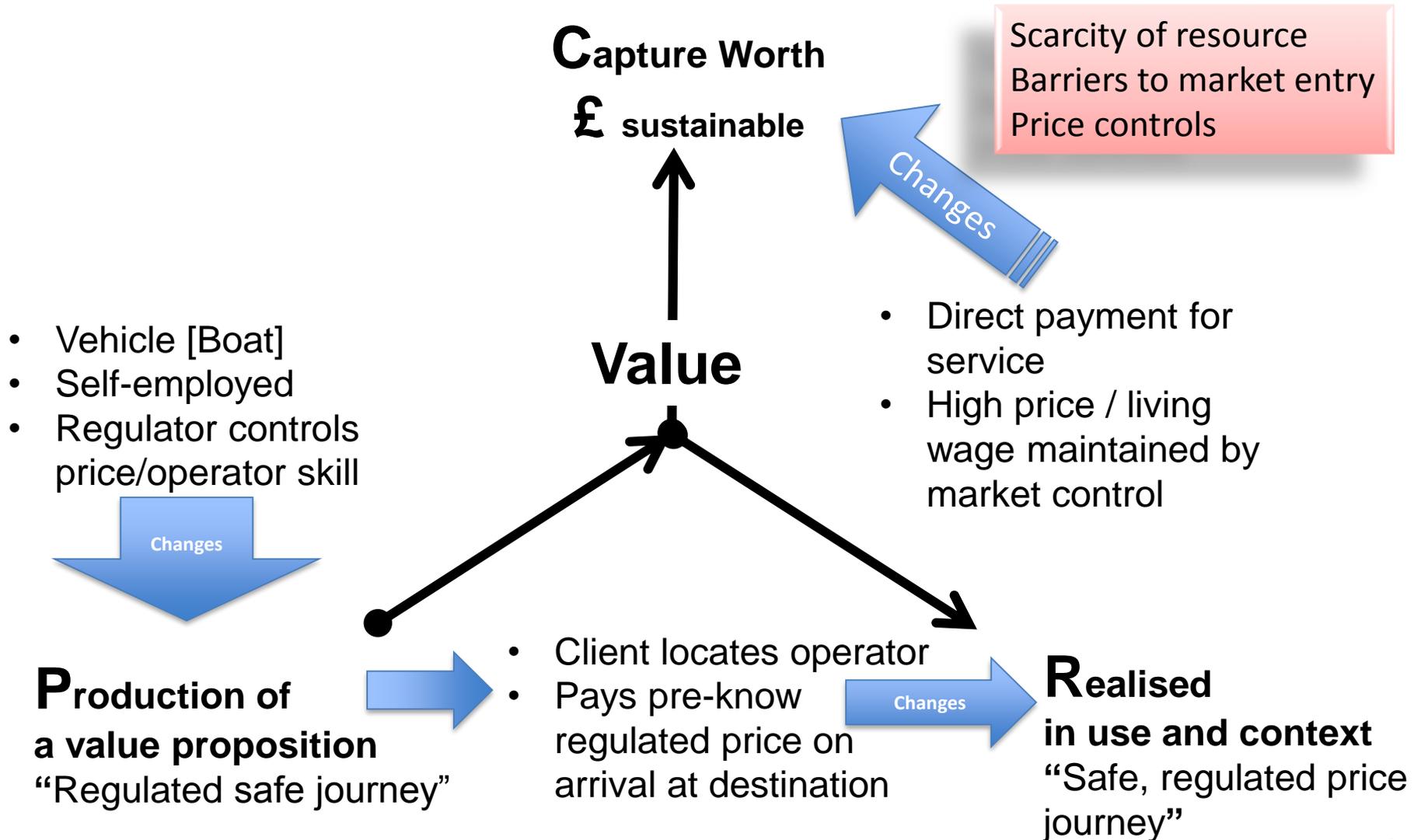


Originally the Thames River was the focus of transport

- Thames crossed by London Bridge or boat until mid 1800s
 - Routes & slipways recorded in the Domesday Book of 1086
- 1510 passenger trade licensed by Henry VIII
- Parliament acts
 - regulated charges in 1514
 - 1555 Regulated passenger safety, in boat durability & reliability of its owner
- 1566 Company of Watermen was formed to control boatmen and address what Parliament described:
 - *The divers and many misfortunes and mischances, caused by evil and ignorant persons who robbed and spoiled of their [passengers'] goods, and also drowned them.*
- Apprenticeship was first 1 year (1555), then 5 and finally 7 years (1603)
 - In 1799 there were 8000 free watermen and 2000 apprenticed



Watermen business model



Innovation disrupted the boatmen's trade ... steam and bridges

- 1800s saw paddle steamers develop
 - fewer boats/people were needed

Steam boats carry many passengers ending value through scarcity strategy for river transport

- Until 1700 there was only one bridge across in central London
 - Roads in winter were often impassable
- 1750 A bridge at Westminster was built
 - This was opposed by the watermen
 - They were compensated for loss of earnings



A lot of bridges within 50 years



Grosvenor



Westminster Bridge,



Battersea Railway Bridge, 1863



Kingston Railway Bridge, 1863



Hungerford Bridge, 1864



Cannon Street Railway Bridge, 1866



Blackfriars Bridge, 1869



Kew Railway Bridge, 1869



Putney Bridge, 1886



Teddington Lock Footbridges, 1889



Albert Bridge, 1873

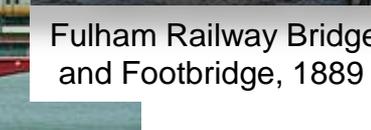


Hammersmith Bridge, 1887

Physical infrastructure developed
1800s Bridge technology & improved roads
facilitated transport away from the river



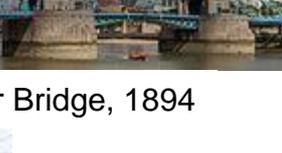
Blackfriars Railway Bridge 1886



Fulham Railway Bridge and Footbridge, 1889



Battersea Bridge, 1890



Tower Bridge, 1894



Richmond Lock and Footbridge, 1894

Innovations disrupted the boatmen's trade

... lightweight personal carriages

- London introduced hackney carriage in 1588
 - licensed to carry the public in 1637
- Hackney (rental) horse and carriages became popular
 - Act of 1642 limited London to 200 coachmen
 - Under control of London Aldermen and 13 elected Master Coachmen
- 1829 saw the first 'hail and ride' horse-drawn omi-bus
 - 1864 lightweight Hansom Cab patented
- Laws to protect the watermen
 - carriages couldn't pick up fares within a certain distance from the riverbank
- Infrastructure improved, by 1850 only 1500 watermen still worked at 80 plying places
 - Today they remain operating Thames passenger boats



Diverse innovation (steam, infrastructure, Hansom cab) all but ended the Watermen's trade

Hansom cab business model – incremental and disruptive?

Capture Worth

£ sustainable

Value

Scarcity of resource
Barriers to market entry
Price controls

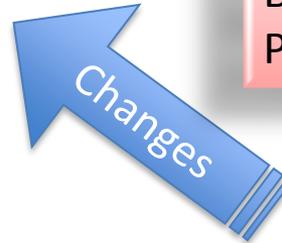
- Vehicle [**Horse and cart**]
- Self-employed
- Regulator controls price/operator skill

- Direct payment for service
- High price / living wage maintained by market control

Production of a value proposition
“Regulated safe journey”
[**increased location flexibility**]

- Client locates operator
- Pays total **unknown** regulated price on arrival at destination

Realised in use and context
“Safe, regulated price journey”



Innovation disrupted the horse & carriage ... combustion engine

- 1903 first petrol taxis licensed
 - 3,623 horse-drawn buses, 13 petrol-powered
- 1913, 142 horse-drawn buses, 3,522 petrol
 - Last licensed horse drawn taxi, 1947
- Black Cabs evolved directly from the Hackney carriage
 - as did their training
- Each cab is its own business
- The Knowledge
 - Minimum 3 year apprenticeship
 - 320 routes, 25,000 streets in 6 mile radius of Charing Cross
 - Fees of ~£1000
 - Knowledge Schools for training
 - controlled by TFL regulator ensures standards & practice
 - market entry difficult thus prices high, such that a fair living could be earned.

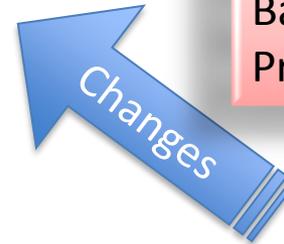


Black Cab business model; sustaining (for some) innovation?

Capture Worth

£ sustainable

Scarcity of resource
Barriers to market entry
Price controls



Value

- Vehicle **[Black Cab]**
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Production of a value proposition
“Regulated safe journey”



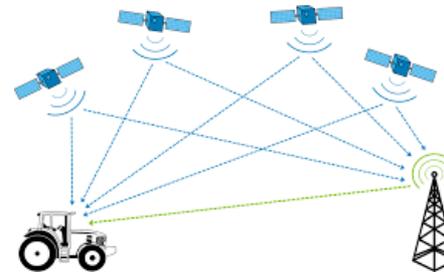
- Individual locates operator
- Pays unknown regulated price on arrival at destination



Realised in use and context
“Safe, regulated price journey”

Innovation leading to disruption ... digital

- 1995 US DoD made GPS operational
 - 2000 opened to public
 - mid-2000s devices across multiple price points
- 3G developed 2001, 4G 2008
 - UK 3g March 2003, 4g Oct 2012
- Smartphones in parallel with 3g and 4g
 - Smartphone sales overtook regular phones 2013
- App stores
 - Apple July 2008
 - Android Market Sept 2008 (now google play)
 - Blackberry World April 2009



2012 Audi A8 QNX GPS



NEC e606



Digital infrastructure built

Digital transport access solutions develop

- Services for on-demand individual transport
- Driver/passenger are linked via a data platform
- Black cab digital solutions Gett and Hailo in London
- PHV/minicab solutions
 - Typically drivers are pre-vetted and scored by clients
 - Fees are pre-agreed
 - Payment is removed from PoS
- Most are not taxi services, rather data intermediaries
 - manage driver/customer recruitment
 - dispatch
 - handle payment
 - Provide apps mapping etc.
- Uber is currently the best known brand globally
 - Numerous similar firms globally
 - Uber launched in 2012 in London



Global: Taxi solution developed in London in 2011



Global: Taxi/black cab solution



Amateur (6 US cities)



Global; PHV dispatch model



US only; PHV model



Ride sharing community; blockchain cryptocurrency 'Zooz' token payment

Note: In London Taxi regulation is different to private hire vehicles

- Taxis (or 'hackney carriages') are available for immediate hire
 - they can be hailed in the street (known as 'plying for hire')
 - They can wait at known locations called 'ranks'
 - Taxis can accept pre-bookings
- Private hire vehicles (PHVs) were only regulated in London in 1998
- Regulated by TFL and rules include:
 - Includes mini-cabs, executive cars, limousines and chauffeur services
 - **Must be pre-booked**; booking via phone, internet or in person
 - Must work **through operators**
 - **Accurate estimated fare** to customer before journey
 - Prohibited from fixing meters to cars
 - They cannot enter 'ranks'
 - It is illegal for PHVs to ply for hire (be hailed)
 - They **must provide a passenger 'booking confirmation before the journey** starts
 - **All journeys must be reported to regulator** TFL each week for the previous week

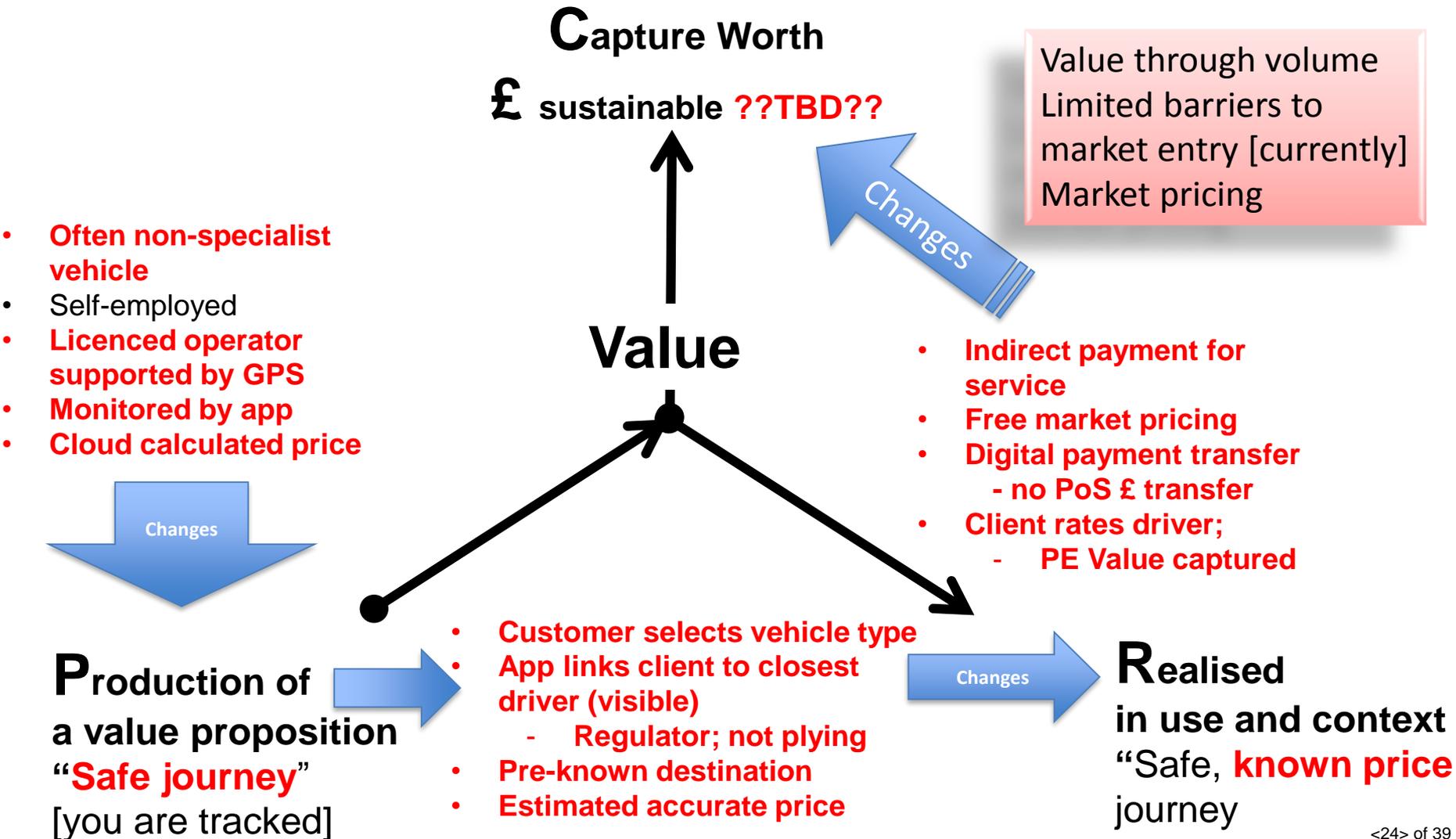
Uber is a PHV offer

- Regular cars
 - uberX, uberXL, uberSELECT
- Luxury cars
 - uberBLACK, uberSUV, uberLUX
- Wheelchair and scooter
 - uberWav
 - “I own the journey” George Fielding, Kidz Board Chair*
- Shared journey to work
 - uberPool

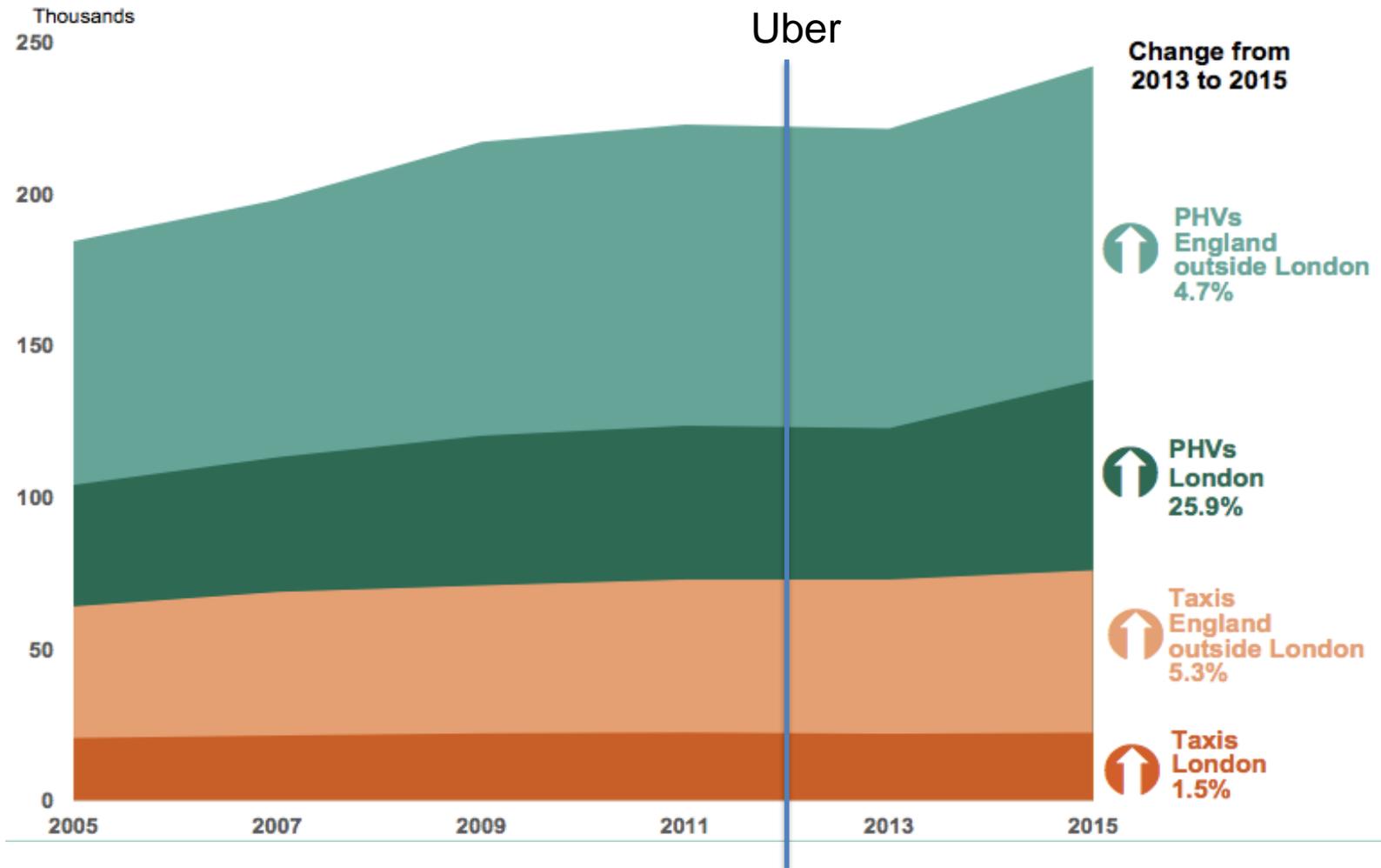


UBER

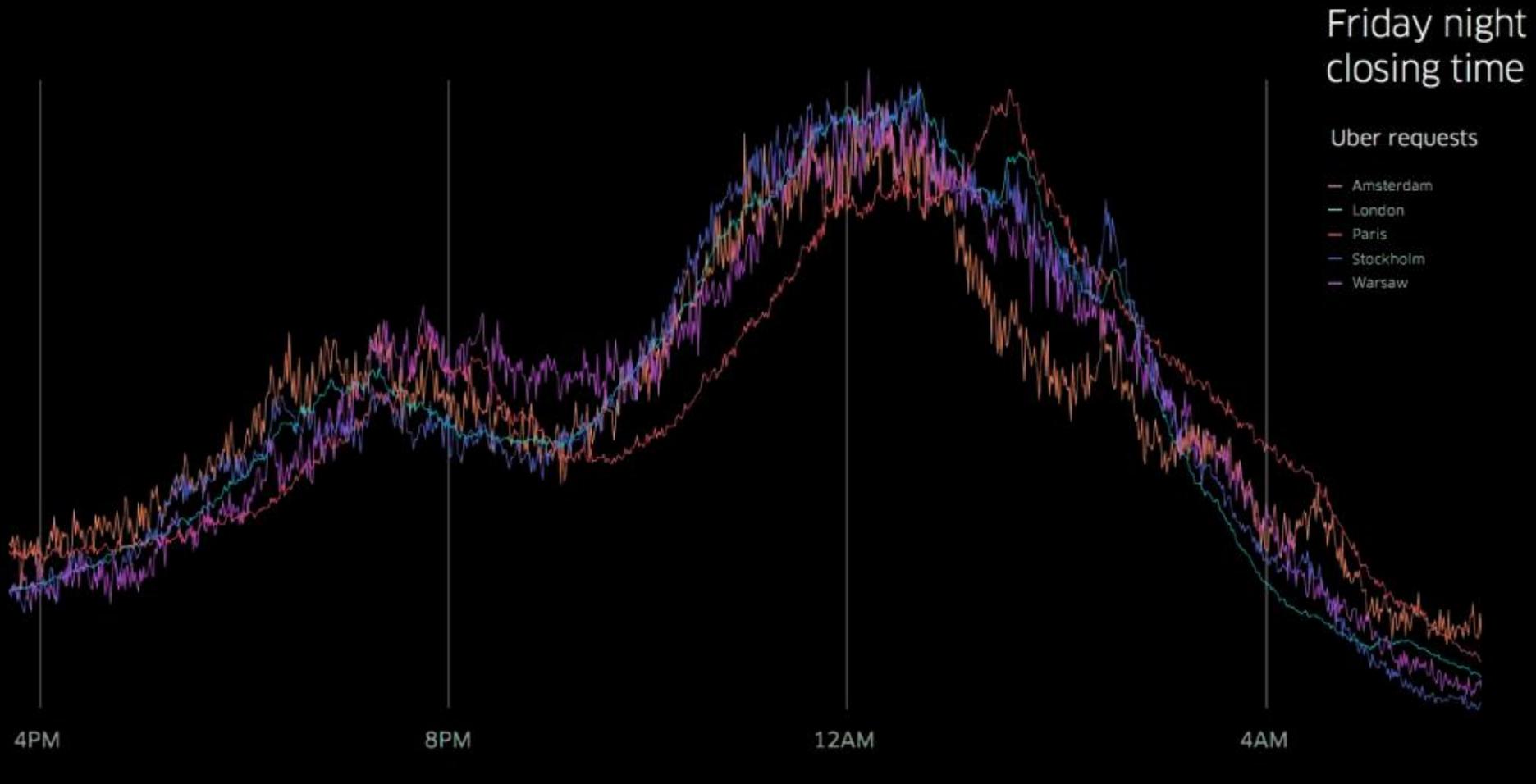
Uber's Digital PHV business model; innovating, disrupting, sustaining...?



Impact: London 26% growth in PHVs vs 1.5% Taxis



Why? Uber drivers meet unserved demand: time & location



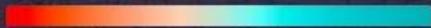
London's night tube increases demand at some stations

Extending Night Tube

LONDON

Decreased
pickups

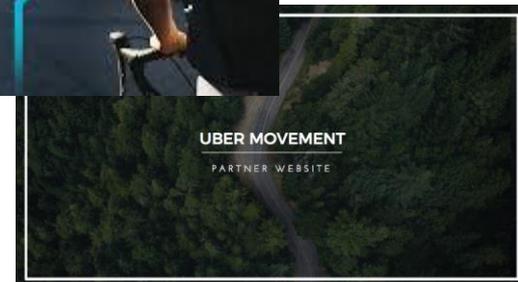
Increased
pickups



So is Uber a digital service
that has disrupted
personal transport in
London?

Uber is a digital platform with aspirations for the value proposition

- Uber is a data platform that currently links customer need with logistics provider
 - The transport business acts like a dispatch service
 - The business model is expanding
- Uber is growing its passenger offering
- Uber Eat - Food
 - Utilises current and new resource and platform knowhow to deliver food
- Uber Rush - Parcels
 - Utilises resource & knowhow for fast delivery
- Developing a data offer for urban planning
 - Uber Movement shares Uber's data with urban planners for empirical decision making



City authorities subcontracting transport solutions to Uber

New Jersey town decides to pay Uber instead of building a parking lot

The city says the deal will help free up nearly 100 parking spots at the transit station, as well as keep it from having to spend millions of dollars to build additional parking.

THE VERGE

MBTA to subsidize Uber, Lyft rides for customers with disabilities

Customers are going to get reduced fares, much shorter wait times...and the MBTA is going to get a much lower operating cost on these trips.

The Boston Globe

Ubers developing their offer and have a grand vision

- Development & testing of novel pricing models:
 - Surge pricing – price based upon demand at the time
 - Upfront fixed agreed price – pre-agreed pricing model
 - Pricing on ability to pay – price calculated on customers estimated wealth and willingness to pay
- Environmental purpose
 - Uber as 'Future of urban mobility'
 - Cars idle 95% of time
 - You don't own a car, you use Uber
 - 10% of Uber millennial riders in US have no car
 - Pushing shared journeys: 4% now, target 25% by 2030
 - Developing self-driving cars
 - "Self driving cars would reduce the number of cars on the road by 90%" – if they can get high utilisation

uberX				
\$12 MIN FARE	\$5 BASE FARE	\$0.30 PER MIN	\$2.70 PER MILE	SEATS UP TO 4 \$10 CANCELLATION FEE
<small>* \$1 toll ride fee will also be included in your fare. For info on this fee, visit bit.ly/ubercom/tollfees</small>				
UberBLACK				
\$20 MIN FARE	\$10 BASE FARE	\$5.55 PER MIN	\$4.70 PER MILE	SEATS UP TO 4 \$10 CANCELLATION FEE
UberSUV				
\$30 MIN FARE	\$15 BASE FARE	\$8.80 PER MIN	\$6.00 PER MILE	SEATS UP TO 6 \$10 CANCELLATION FEE



Uber's long term strategy is to be *the* transport service

As McGrath & MacMillan suggest, innovators make mistakes

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Uber employment status case: are there implications for all employers?

By Fiona Rushforth on 23 Mar 2017 in Employment law, Freelance workers, Gig economy, Terms and conditions of employment, Zero hours



Case Nos: 2202550/2015 & Others

EMPLOYMENT TRIBUNALS

BETWEEN

Claimants and Respondents

(1) Mr Y Aslam
(2) Mr J Farrar & Others

(1) Uber B.V.
(2) Uber London Ltd

REASONS FOR THE RESERVE PRELIMINARY HEARING SET ON 28 OCTOBER

People Management

Introduction News round up Blogs From the Magazine Industry Insight Archive About Advertise HR Support

1 Uber is a modern business phenomenon. It started in 2009 and its smartphone app, the enterprise operates (the App), was released in 2010. In 2016 its Chief Executive, Mr Travis Kalanick, published a letter to investors in which he stated that Uber began life as a black car service for 10 private drivers. Today we're a transportation company that delivers food and packages, too. And ... we've gone from a luxury, 1 transportation option for millions of people.

People Management » Employment Law » Terms and Conditions of Employment

Uber granted right to appeal in landmark tribunal

Georgi Gyton 20 Apr 2017 1 comments

Decision hinges on whether drivers are self-employed; separate construction could prevent use of umbrella companies

Uber has been granted the right to appeal against a ruling made by a London employment tribunal last year that its minicab drivers should not be viewed as self-employed.

Sources: <https://www.judiciary.gov.uk/wp-content/uploads/2016/10/aslam-and-farrar-v-uber-reasons-20161028.pdf>; <http://www.personneltoday.com/hr/uber-employment-status-case-implications-for-all-employers/>; <http://www2.cipd.co.uk/pm/peoplemanagement/b/weblog/archive/2017/04/20/uber-granted-right-to-appeal-in-landmark-tribunal.aspx#>; <https://www.forbes.com/sites/deniselyohn/2017/03/25/why-did-sexual-harassment-fell-uber/#37bf59682050>; <https://www.bloomberg.com/news/articles/2017-02-28/in-video-uber-ceo-argues-with-driver-over-falling-fares>; <https://www.engadget.com/2016/08/17/uber-legal-action-tfl/>

THE VERGE TECH SCIENCE CULTURE CARS REVIEWS LONGFORM VIDEO CIRCUIT BREAKER MORE

Former engineer says Uber is a nightmare of sexism

C 19, 2017, 6:07pm EST

In Video, Uber CEO Argues With Driver Over Falling Fares

Travis Kalanick tells a driver to take responsibility for his problems and boasts about a tough culture.

by Eric Newcomer 2017 M02 28 20:39 GMT Updated on 2017 M03 1 02:30 GMT



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Uber takes legal action against TfL over new taxi rules

The ride-hailing service believes a written English exam and other measures to be unlawful.

How to be a human being in the comments: A refresher

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Jamie Rigg, @jmerigg

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Disruptive innovation
First mover advantage / disadvantages too
Fail and learn from failure / public failures
Flexible until value understood & established / resistance to change

Future of transport is in a state of becoming and is heavily influenced by digital disruption

Where will personal transport innovation go next, how, and why?