



The fourth industrial revolution: a new era in financial services

From the technically possible to the societally desirable
Lessons and ideas from the field

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Shiraz Partners | Holland FinTech

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Who's that girl?



Faster Payment Innovation Index®		
Optional features maximizing customer value and innovation	Extended B2B remittance Alternate Identifier Batch and Individual Payments Fast Settlement	5
Highly desired features enhancing customer value and innovation	Universal Access ISO standards (0022 or 8583) 24x7	3
Required features	Interbank Account to Account <1 min End-to-end Irrevocable Supports Retail	1
		Scoring



Facts	More innovation in existing schemes	Increase in consumer uptake	New
Evolution 2014 - 2016	UK New access model	CHINA Volume x30 Value x90	Blockchain on the agenda
Live Initiatives 14 to 19	INDIA IMPS universal payments interface	INDIA Volume x4 Value x4	Combination of open and instant
Under development 1 to 5			
On the radar 1 to 4			
www.fisglobal.com			



On the menu today

FinTech – optimizers, transformers and disruptors

A few key developments and what people do with them
Real-time payments | blockchain | IoT | InsurTech | Identity

From banks to banking
A few thoughts post PSD2

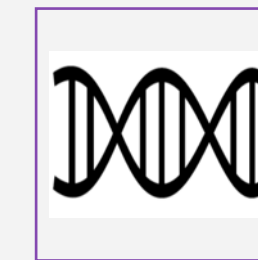
It's all about societal change

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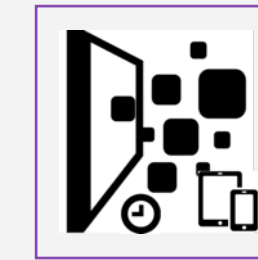
So which boxes to check in fintech

what and how – them and us

- Digital DNA centric
- Instant, open, mobile
- Regulation is an opportunity
- Fair and acceptable to the world
- Data = context driven
- Eco system based



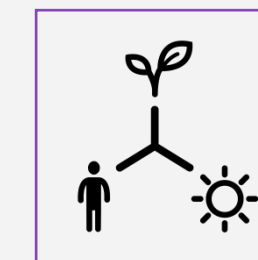
Customer out – FI in, clean up, redesign, simple, simple



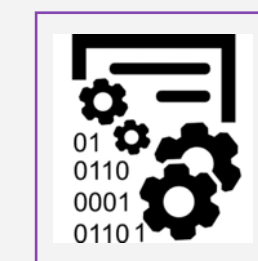
Irreversible trends, stop debating it, please



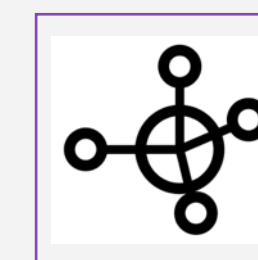
Guaranteed budget @FI and partners for the new world



Tax optimisation is not cool, be authentic about 'sharing', unbanked can be profitable if served the right way, transparency in price and process



All data is useless without context = relevance



Let others be (pay for) your channel, grow fast

A relevant model to cut through the 'hype' of FinTech disruption

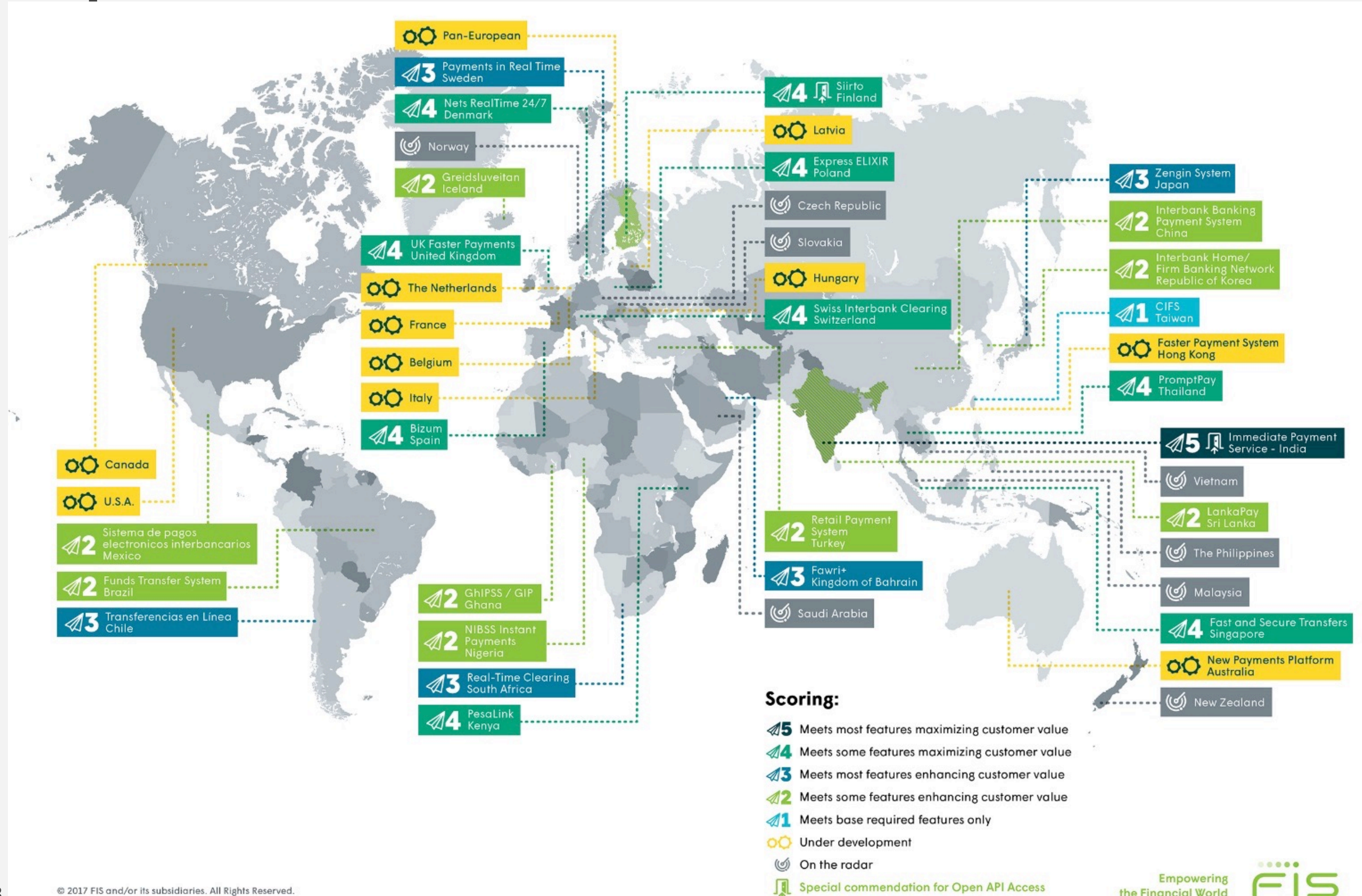
FinTech type	Market	Return potential	Competition	Outlook time	Return potential
Optimizers – optimise existing processes with new tech	Existing FI, more tactical than strategic	Good for efficient and experienced teams	Large from new and existing players, inhouse	Now – 5 years	Decent return, trade sale if fast and global scale up, relationship model, 'safe' in uncertain times, not attractive for top talent.
Transformers/ Innovators – innovate and transform existing processes and apply new tech	Existing FI, strategic, coalition of the willing	Excellent for scaleable experienced and mixed teams with open mindset	Large on paper; smaller in real life, few incumbents have open mindset & agility	Now – 10 years	High, entrepreneurial, well funded, mature founders with good network, ambitious in growth – 'in the market'
Disruptors – change market models, processes and customer behaviour	Existing FI as partner, any brand builder with deep pockets, and end user market	Unicorn if all boxes ticked: talent, capital, growth, experience, network, idea	Smallish, most competitors disappear within 2 years. Large players catch up with 'lipstick on pig' propositions	3-5 years	From 0 to unicorn – high risk, high reward – need as much entrepreneurial support as money. Mixed team with bold involved investors – 'ahead of market'



Real-time payments

Magic for Business

Top innovators in real-time



[Click here for free download full 2017 report](#)

SME and corporate can be the big winners...



Poland:

- Duty fee payments to local port authorities
- Instant, STP unload, load, continuation

NL:

- (planned)
- everyone is a merchant: instant P2P on King's Day
- SME 24x7 access to liquidity



NL

- (planned)
- Flower exchange
- Instant payments: avoid queue, instant load, fresh delivery

India:

- Government QR code
- RT flight payments



China:

- 195 institutions direct access
- 4,450 bn payments
- +50% y/yr





Blockchain technology **'Internet before the browser'**







BITCOIN BASICS: HOW IT WORKS



Bob owes Alice money for lunch, so he picks up his smartphone and opens his Bitcoin smartphone app.



To pay her, he needs two pieces of information: his private key, and her public key.



Bob gets Alice's public key by scanning a QR code from her phone, or by having her email him the payment address, a string of seemingly random numbers and letters.



Anyone who has a public key can send money to a Bitcoin address, but only a signature generated by the private key can release money from it.



The app alerts Bitcoin "miners" around the world of the impending transaction.



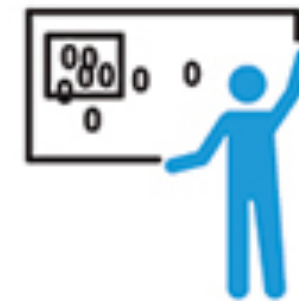
The miners verify that Bob has enough bitcoin to make the payment.



Miners race to bundle data from the pending transaction with other unrecorded transactions, plus the last block of transactions recorded in the public ledger, as well as a random number known as a nonce.



Then the miner applies a mathematical function known as a hash, which produces a unique cryptographic "fingerprint" that makes transactions verifiable.



The hashed block must have a certain, but arbitrary, number of zeroes at the beginning. It's unpredictable which nonce will produce a hash with the correct number of zeroes, so the miner has to keep trying different nonces to find the right value.



When a miner finds a hash with the correct number of zeroes, the discovery is announced to the rest of the network. Other miners communicate their acceptance when they turn their attention to finding the next block, with the newly made block as a component.



The algorithm rewards the winning miner with 25 newly created bitcoins, and the hashed block is published in the public ledger.



Within 10 minutes of Bob initiating the transaction, he and Alice each receives the first confirmation that the bitcoin was signed over to her.



The parties receive several more confirmations as the block that recorded their transaction is embedded into subsequent blocks.

Read this at home

Blockchain – ‘internet before the browser’

- The good news:
 - Blockchain protocol can be used as proof of record for an exchange of digital values (monies, contracts, vows, assets)
 - It is a shared system: you need more than one: internal or external blockchains – public and private
 - Irrevocable in nature, only one ID can have the asset at one point in time; all transactions recorded, archived, replayable for ever, object code cannot be changed
 - There is no such thing as a ‘smart contract’- they are sets of programmed transactions
 - Provenance: all messages can be detected too determine caller address – eventually no hide out for crime
- To be determined:
 - Will the lovely baby grow into an amazing teenager or a terribly wayworth one?
 - Handling of volumes – in its current form unfit for mass transactions like retail payments volumes
 - Computing power – enormous to date – (example: 1 bitcoin payment of 50MB costs one average households energy for a month...)
 - Standards for industry use – to be developed
 - Best fit ares for solution fit: to data anything with complex data, from many (global) sources to be accessible by many: trade finance, cadaster, crypto currency, low cost cross border payments, digital ID, house deed sales, specfic sidechains

Everledger — valuable (diamond) asset register

- Founded by ex-Banker
- Good for the insurance industry: fraud prevention and detection
- Good for the asset holder: secure asset
- Good for society: an end to blood diamonds

PERMANENT. IMMUTABLE.

Everledger is a permanent ledger for diamond certification & related transaction history. Verification for insurance companies, owners, claimants & law enforcement.





Internet of Things

LifeStyle aid and ... The weakest link...

City/Infrastructure**Home****Toys****Platform****Automotive****Internet of Things**

500 Companies
\$2.24B Funding

See the updated scan and more:
www.venturescanner.com/scans/internet-

Lifestyle/Entertainment**User Interface****Tags/Trackers**

Venture Scanner

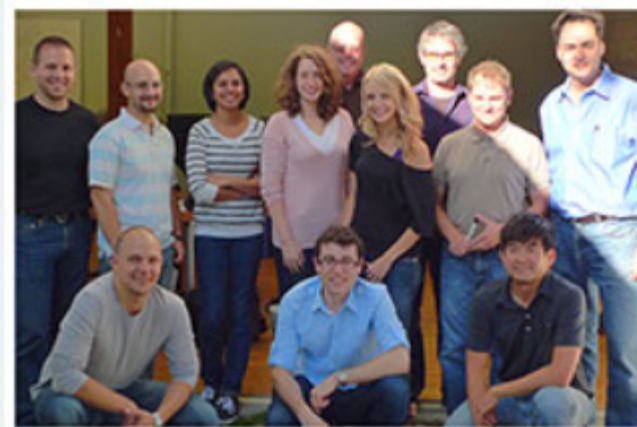
Healthcare**Fitness****Smartwatch/jewelry**

Nest – the connected 'home'

- Connected everything, and much more than cars
- In FinTech: primarily InsureTech
- Possible caviat – GDPR – what can you know about someone, what may you know, what may you use and how?
- Huge opportunities in connectivity to healthcare and more – hence the Google acquisition in 2014

Mei 2010

16 mensen in een garage in Palo Alto.



Oktober 2011

Nest presenteert zich aan de wereld met de Nest Thermostat.

Juni 2012

Nest Thermostat is verkrijgbaar op amazon.com.



Oktober 2013

Het Nest-team breidt uit naar het Verenigd Koninkrijk.

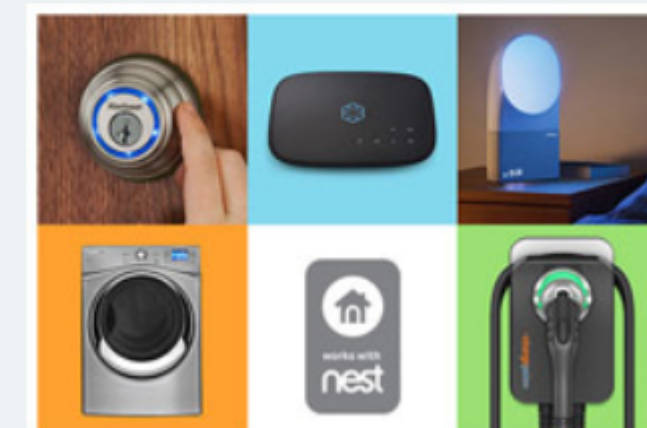


Januari 2014

Nest gaat samen met Google. Opeens is er veel meer eten in de kantine.

Oktober 2015

De Nest Cam API en Nest Weave maken de weg vrij voor nieuwe Works with Nest-verbindingen.





Insurtech

Waking up to the beauty of data and relevance

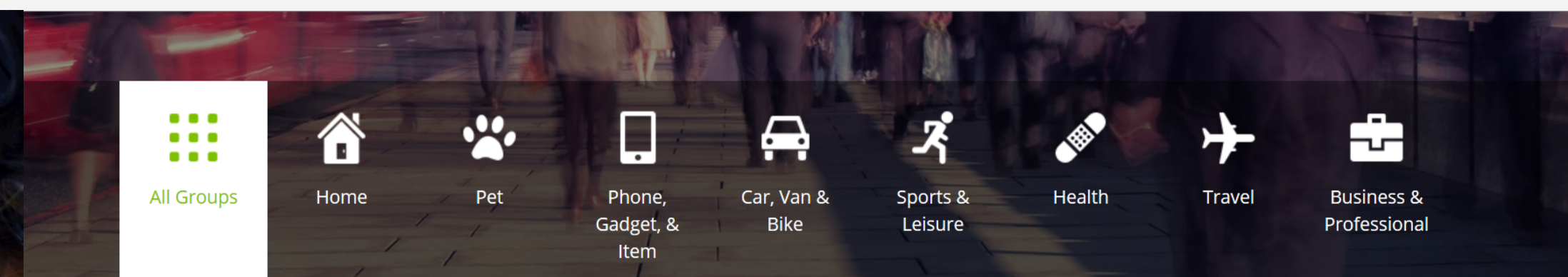
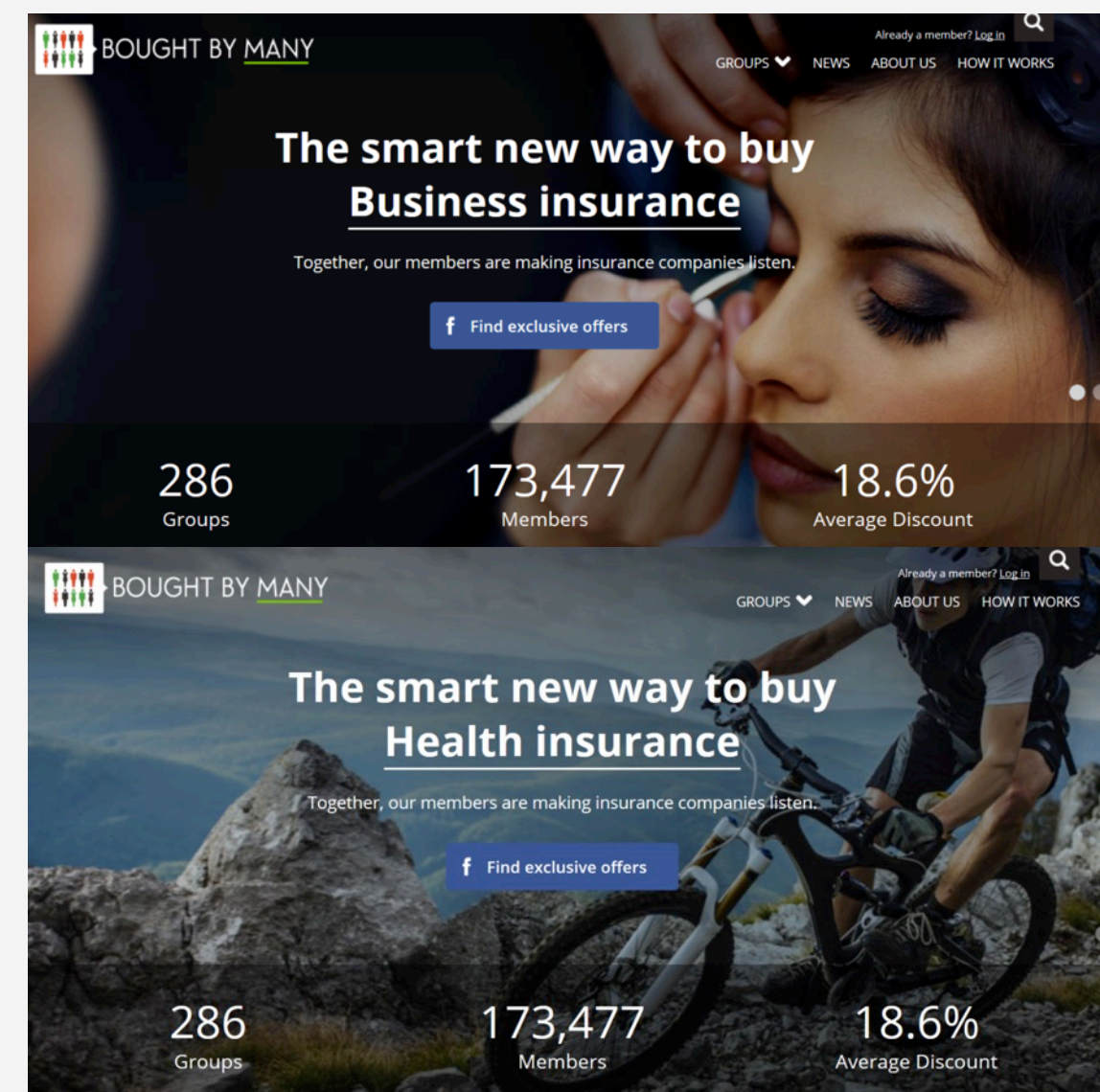


Seven flavours of InsurTech





1. Superb customer engagement
2. Dramatic cost savings
3. Sophisticated underwriting and risk reduction
4. Disruptive business models / new roles in the supply chain
5. Identity and disruptive technologies
6. Innovation acceleration enablers – rejuvenating IT
7. Contextual data propositions – social and structured

Bought by many – making insurance listen..

- digital DNA: low cost, social, STP
- business disruptor
- new solidarity
- eco system driven
- expandable business model: members bring new members | global issues
- item based insurance



We found **281** groups

 <p>Asthma Travel Insurance</p> <p>Join the group to buy travel insurance and give something back to an asthma charity</p>	 <p>Backpacker Insurance</p> <p>Join our group to get discounted backpacker travel insurance - 10% off for group members</p>	 <p>Child Only Travel Insurance</p> <p>Join other parents for a discount on insurance to cover your child when they travel without you</p>	 <p>Crohn's Disease Travel Insurance</p> <p>Join this group to demand a fairer deal on travel insurance for people with Crohn's disease</p>
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Tapoly – insurance on 'tap'



A business for banks 'to loose'

A business for banks 'to loose'

Identity: the new currency

Bank favourite assets:

money

data

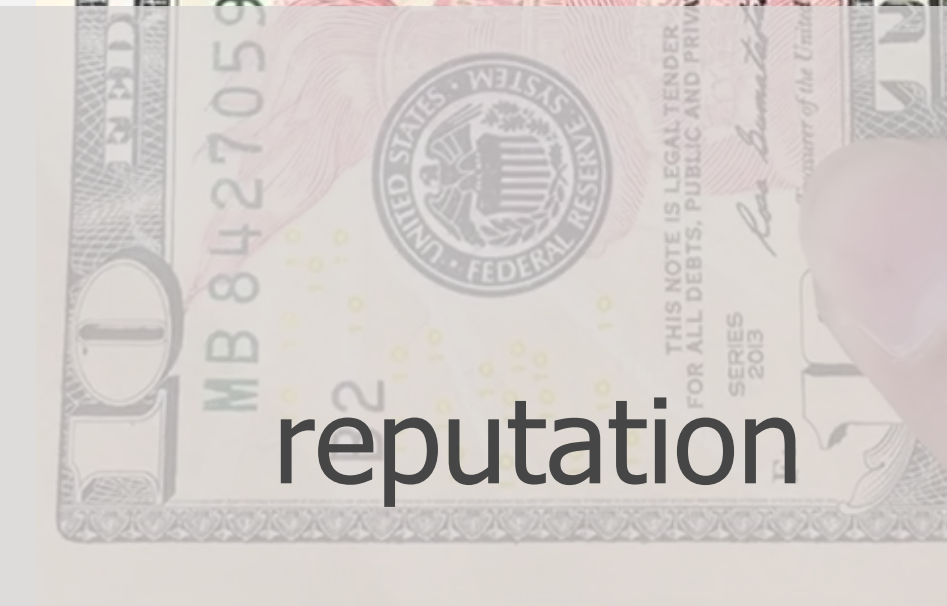
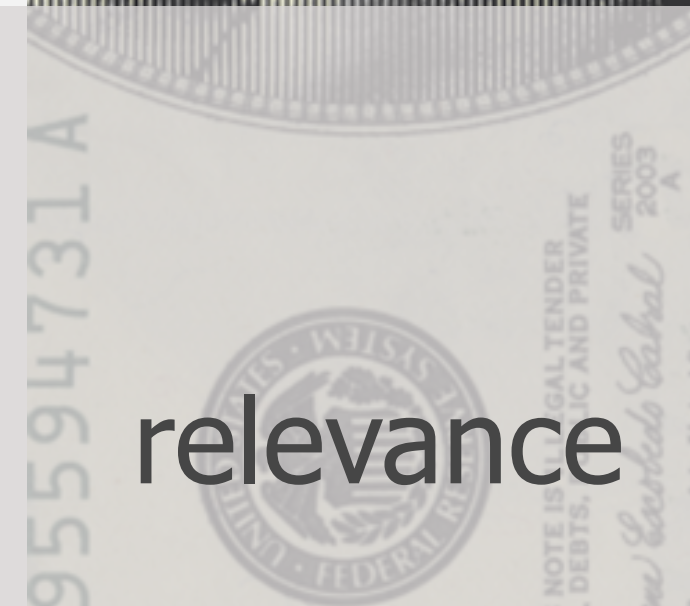
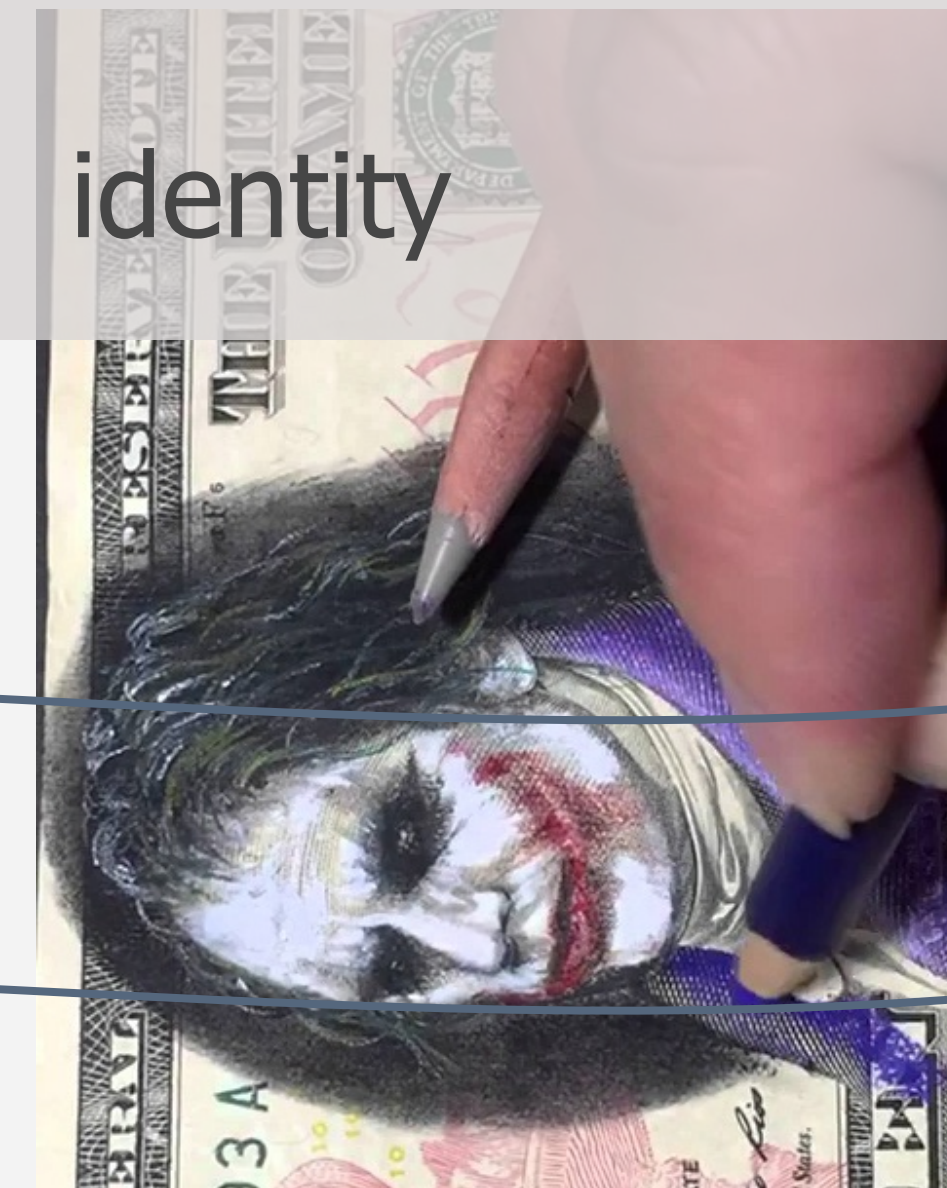
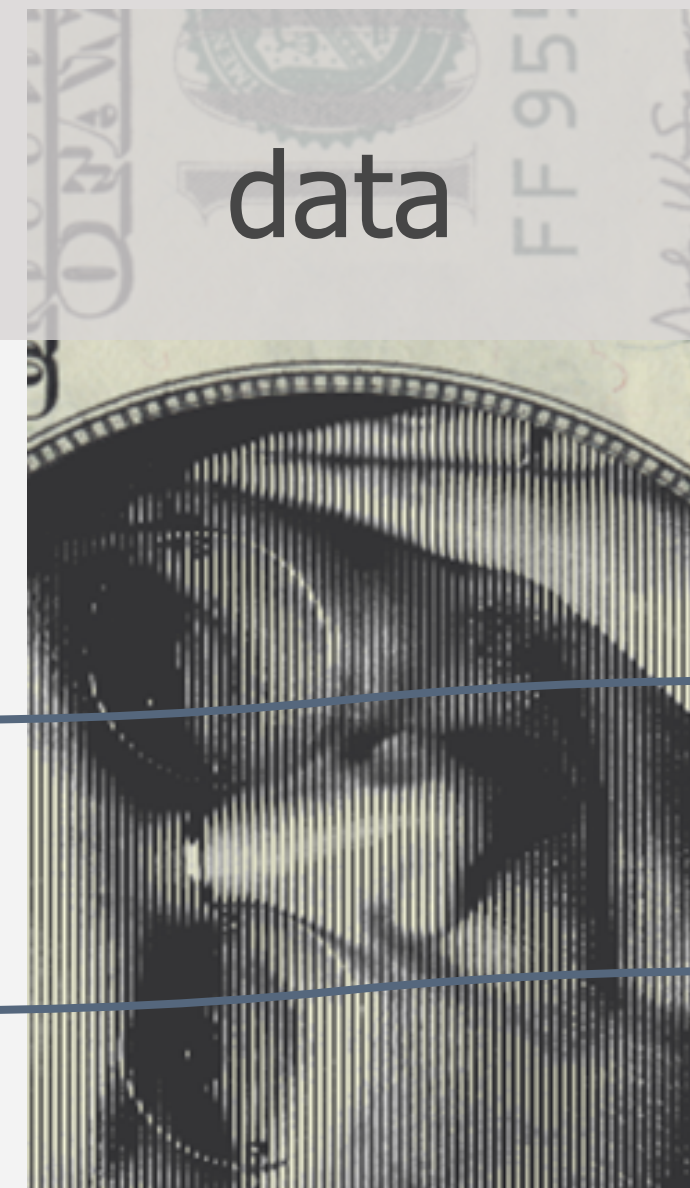
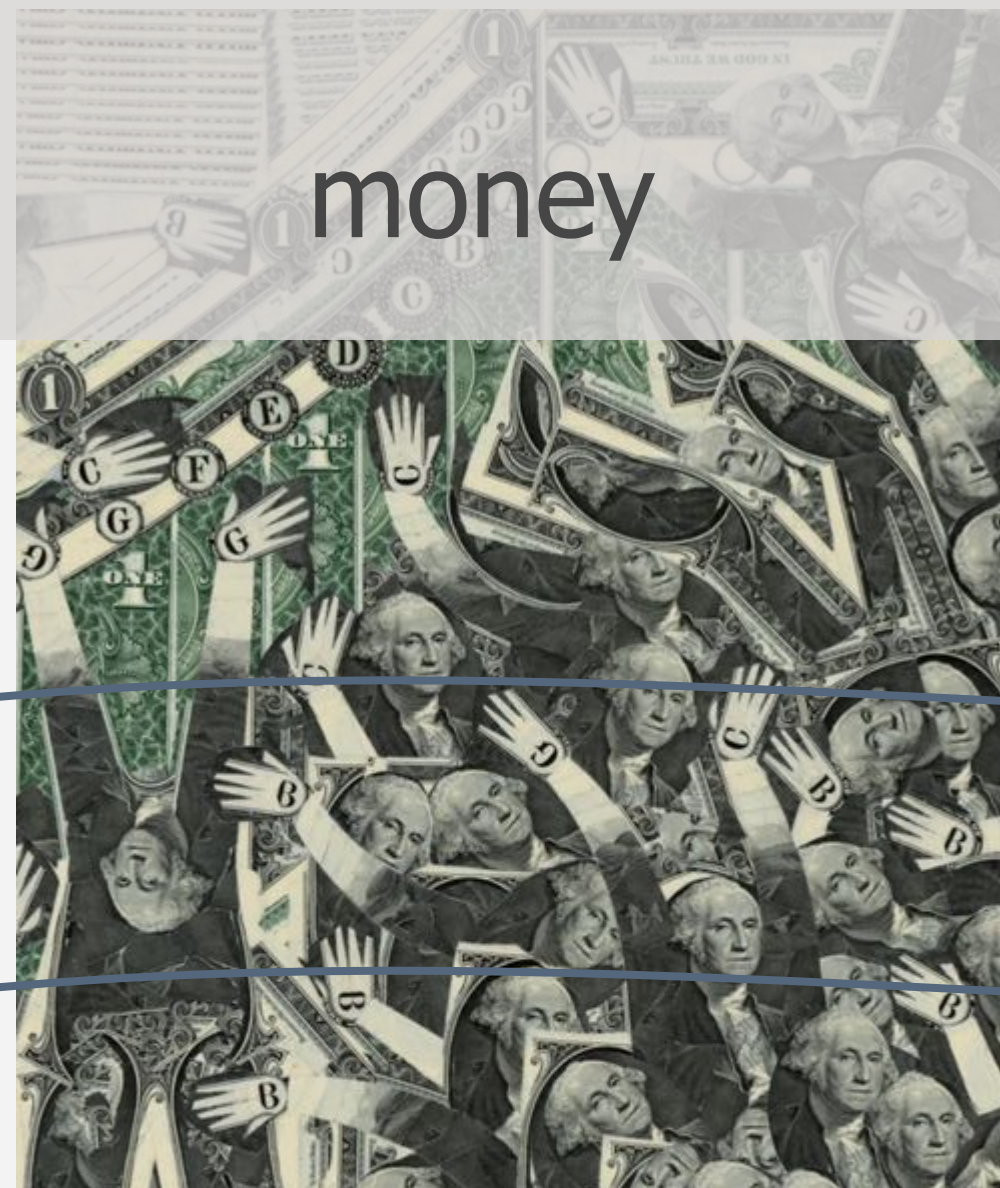
identity

What bank customers want:

value

relevance

reputation



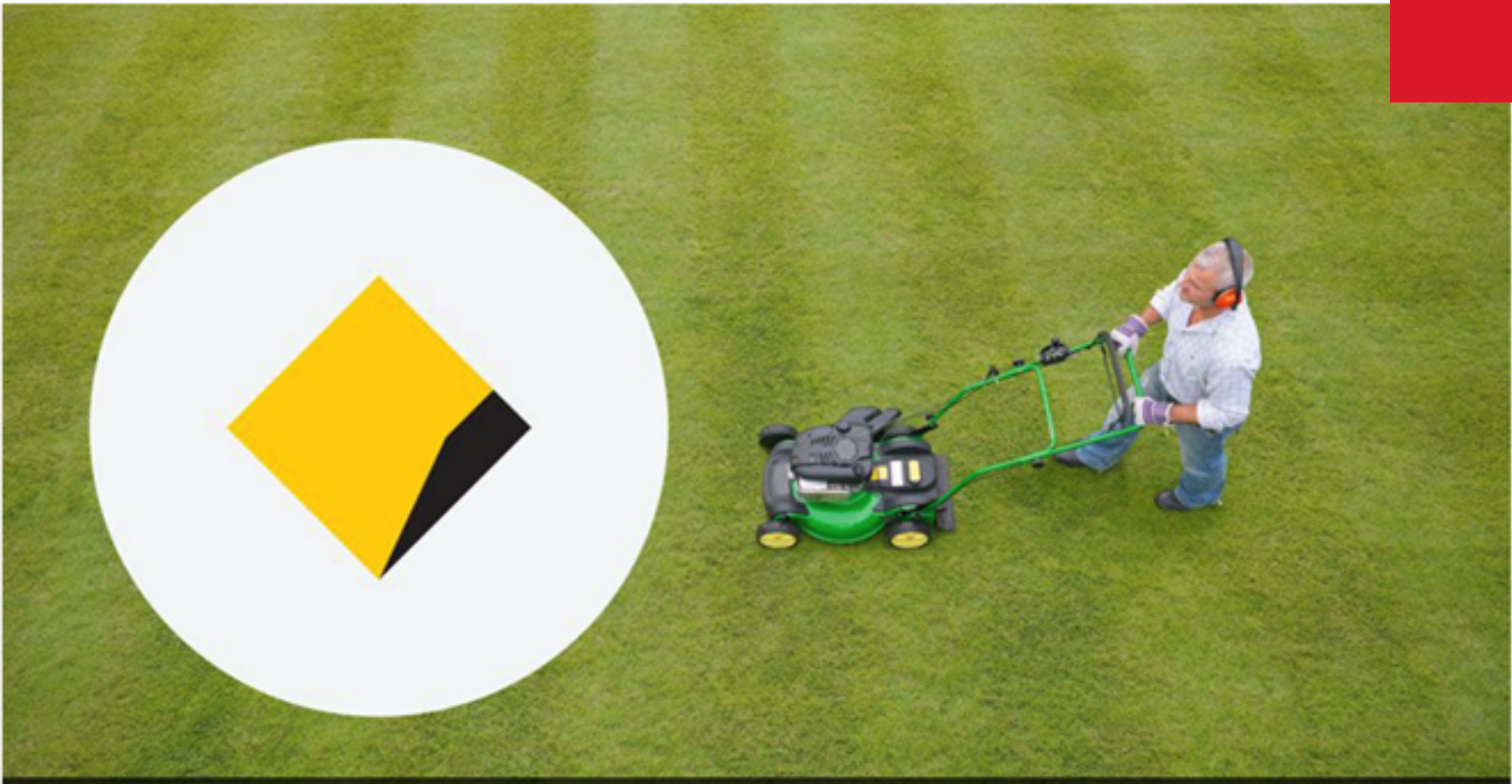

CBA 'trust passport'

MashableUK VIDEOS SOCIAL MEDIA TECH BUSINESS MORE

This top bank will supply you with a 'trust passport' for the gig economy

781 SHARES

Share Share +



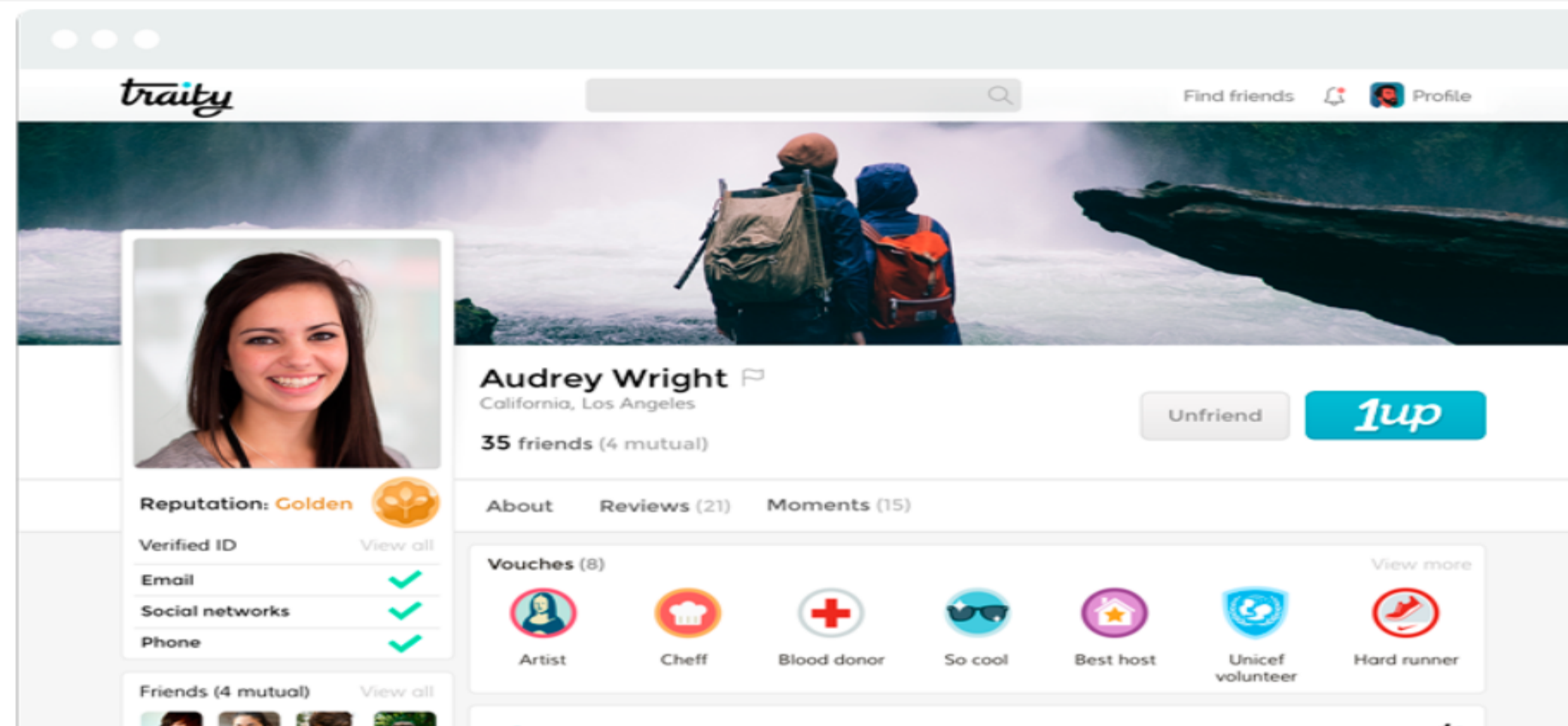
Airtasker and the Commonwealth Bank are teaming up.

desperate for your

WATERCOOLER
Guy rescues 4 baby squirrels with their tails tangled together

1K SHARES

Traity — the reputation standard



Identity verification

You are who you say you are based on your personality, bio, awards, key links, most relevant pictures...



Reviews

"The star" ratings you have earned on sites like eBay, AirBnB, etc...



Social networks analytics

What your Twitter, FB, LinkedIn say about your personality, interests, experience, friends, etc.



Vouches

Get trusted by other trusted members in order to increase your reputation.

- Build a verifiable socially engaged online reputation
- Combination of structured and unstructured data
- Member driven initiative
- FI acknowledgement adds points
- Highly relevant for migrant workers, overseas students, contractors and flex workers

From banks to banking

A few thoughts post PSD2

Layers of BaaS-platform

Ecosystem
100+ fintech-startups

Bank-as-a-service
based on 40+ universal APIs

Banks
Licensed and regulated banking back-ends (belong to banks in each country)

Fintech-startups do not need to spend time, money and human resources to be integrated

Middleware
provide for them universal APIs

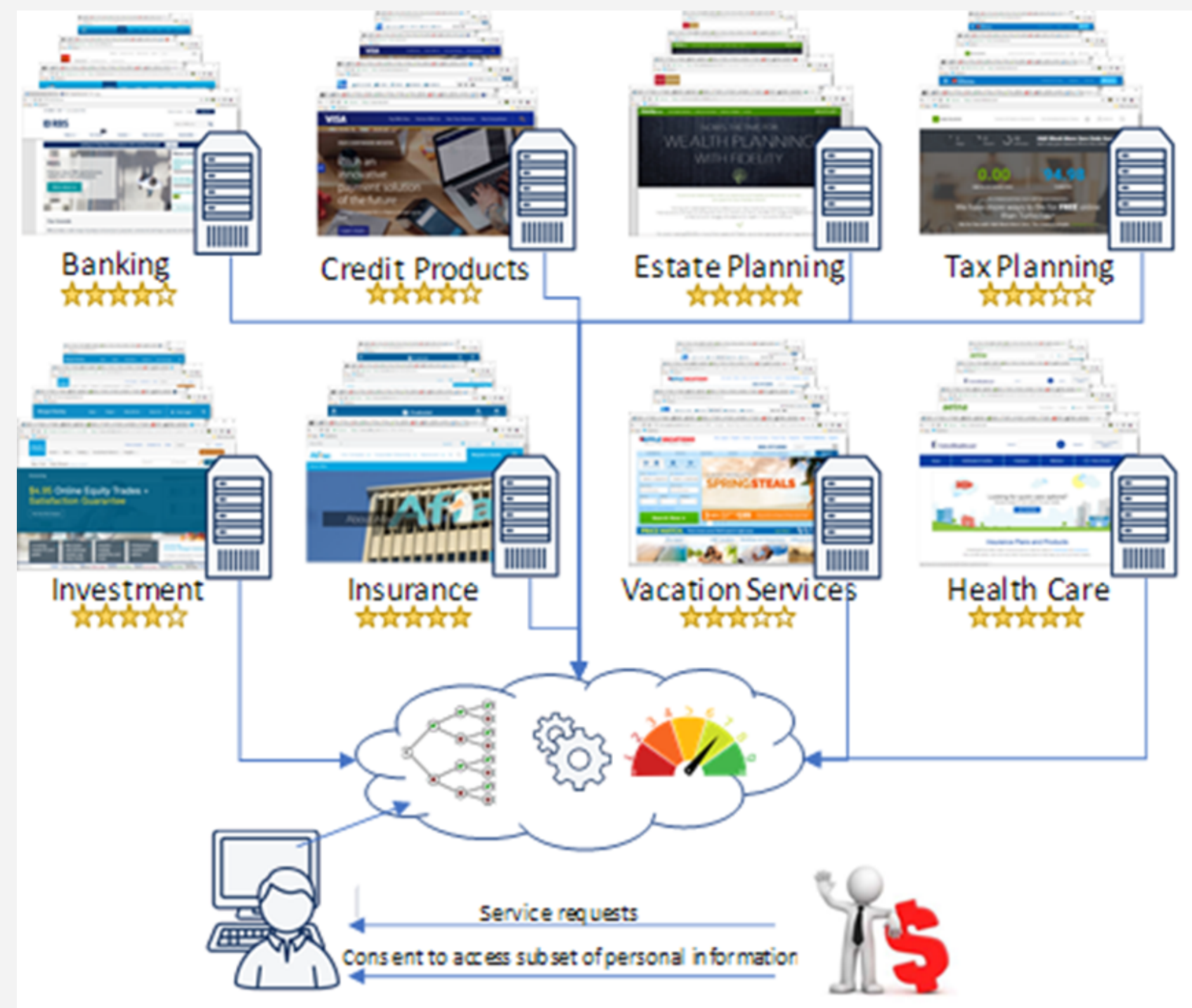
Banks do not need to spend their time and money to create new APIs and to communicate with all startups all over the world

From Bank to Banking – the future

- **Banks** that 'get it' are uniquely well positioned to be the winners:
 - Regulation around customer and asset protection
 - They have clients – churn remains low
 - They replace channel cost by API income
 - Security & identity – overarching issues
 - Relevance: instant, mobile and data = context
- **FinTech** wins too:
 - Scale at lower cost
 - International expansion at lower cost
 - Benefit from eco system and API management by bank/BaaS
 - No need to do boring stuff: talent and focus
 - Lower marketing expense
- **Who else:**
 - Secure cloud service providers
 - Large infrastructure tech players

Challenge the challengers

banking without current account or license



Opportunity: **Create a new digital bank based on the principles of Open Banking (and PSD2).**

The model enables a customer to create a digital relationship with your bank using a slick ID&V process combining facial recognition and passport based KYC verification. The platform then sources the most suitable banking products for an individual, based on location, age & needs. The platform owns the customer relationship irrespective of where the product is sourced from.

Solution:

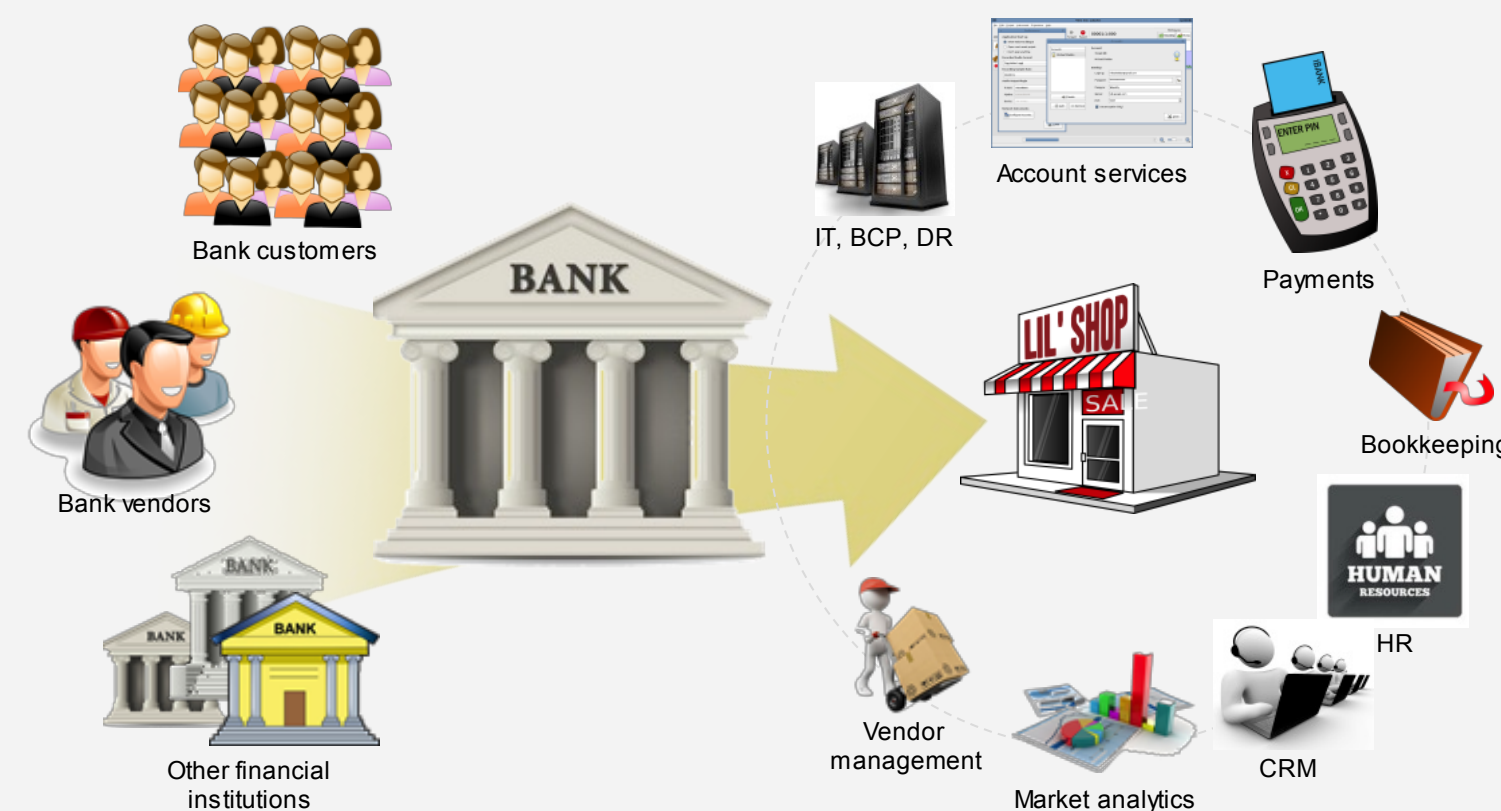
- Utilising the principles of UK Open Banking/PSD2 AIS/PIS APIs, the platform becomes a data broker, initially for banking products, but in time for any product.
- GDPR: customers consent to access and use their data, create a customer pull market (match and source the best product(s) for the customer's needs.)

Benefits:

- Disaggregating the challengers and other high street banks, the platform will be able to onboard customers quickly, and provide the customers with tools and services allowing them to control, manage and monetize their data.
- Transform their delivery model for services to end customers by becoming a FS and non-FS product facilitator and distributor, not merely a manufacturer of banking products. Therefore, essentially, this flips the model from being a sell-side manufacturer to one of being a buy side broker/distributor, and is the first step of the journey to becoming an advertising and fulfilment channel rather than a payment processor or commoditised transactor.

Connected Commerce 2.0

Merchant services in an Open Banking world, connecting every consumer with every merchant



Opportunity: **Use the 'banking' platform as a pull mechanism for getting large numbers of (data) consented (not necessarily direct) customers.** The platform connects businesses with consumers with a truly differentiated 'bank agnostic' proposition built around core merchant needs.

Core objectives include:

- Address underserved SME needs
- Connect businesses with consumers
- Offer adjacent services, combining FS and non-FS products.
- Connecting SME Advisory business offerings and related assets into the platform's 3rd party marketplace.

Benefits:

- Building a new model of advertising, by utilizing customer data to target relevant offers, and providing a new revenue model of click fees and ARPU (Annual Revenue Per User).



Tech? Fin? - It's all about societal change

The fourth revolution

Nothing new:

- Technology advances at its own pace and way ahead of regulation
- Society changes at its own pace, supported by technology and heavily influenced by culture

New:

- Technology and in particular robots (computers who can act on our behalf) have no values and morals

So:

- People must take their responsibility and deal with the values' issue in this next era of finance and not hide behind/wait for regulation

**Robots compute better than we do
But are not creative, people are**

**The fourth industrial revolution should close gaps,
not make them even wider : knowledge and money**

Mixed workforce for better results: age, gender, culture

Don't scare people out of lack of knowledge; robots cannot fold laundry!

Labour conditions must be safe, equal and fair – in cont



Talent wants access to your time and energy

**Tax evasion is an ending game: and soon as
sad and pathetic as**

**Who needs more than xx million??
Share to grow...**

Don't melt the icebergs whilst bitcoin mining

A robot might give the most optimal
investment advice, a human makes it
fit for purpose (person, situation,
context)

Final take-aways

- Disruptor warning: People only change behavior if the new thing is easier, cheaper and equally safe and secure
- It's cultural: USA, China, APAC, Europe
- Watch the speed of change with regulation: GDPR and PSD2 – massive opportunity for incumbents and transformers – partner or invest
- Banks must learn to be good partners and buyers – procurement resides still in the 80s
- Lobbying is needed:
 - Existing banks: turn private banking clients into angels of time and money; take investments out of sandbox and into the business line
 - Government: encourage high risk informal investing in start- and scale ups with a different tax regime
 - Regulators: limited regulation is better than none: one cannot raise money on an exemption
 - Government: talent – fast track migrant passes for talent
- Focus on scale-ups: nature takes care of start-ups (without being cruel)
- Talent is everything: be authentically attractive (check the boxes)
- This is not about compliance and technology: embrace societal change with responsibility

Thank you! KBO with a smile

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