

Digital innovation: financial inclusion friend or foe?

Digital innovation as a driver of financial inclusion and exclusion

Jonquil Lowe, IKD workshop, 21 September 2016

In the neoliberal climate that dominates the global economy, innovation is invariably viewed as a 'good thing', the major driver of economic growth and thus jobs and general well-being.

That's a strong narrative at the macroeconomic level, but glosses over the diversity of experience for individual households.

One of the dominant areas of innovation over the last 20 years especially has been digital innovation. In this workshop I am going to look at two divergent experiences of the way in which digital innovation can affect financial well-being, at least in the short-term.

Financial inclusion



‘Financial inclusion, at its most basic level, starts with having a bank account.’

Demirguc-Kunt et al, 2015 (World Bank)

‘A financially inclusive society is one in which financial services are accessible to all, easy to use and meet people’s needs over their lifetime. Financial inclusion also means that people have the skills and motivation to use financial services, and to benefit meaningfully from them.’

Financial Inclusion Commission. 2015

I’m going to look at the impact that digital innovation is having on financial inclusion in different parts of the world, distinguishing developing and developed countries.

Like any good OU student, we need first to define what we mean by ‘financial inclusion’.

In many poorer parts of the world, financial inclusion still means simply moving out of a cash-only economy by gaining access to a bank account or some alternative service that provides a convenient means of making and receiving payments and a secure way of storing liquid savings. So we are talking here about more efficiently providing two key functions of money: a medium of exchange and, to the extent that money balances are unspent, a store of value for precautionary savings.

In developed countries, such as the UK, the definition of financial inclusion is broader. This definition used in the UK reflects the rolling back of the welfare state and transfer of financial responsibility to individuals and households. It recognises a wider range of needs than just payment mechanisms and emergency funds. This definition recognises the need for long-term saving and risk management. It also focuses not simply on the supply of the products and services required but the ability of consumers to identify their needs and select

and use financial products appropriately.

Importance



To the individual

- Ability to make and receive payments with more safety, convenience and cost savings than cash
- Access to credit (eg to start a business, pay for education)
- Access to savings (eg to plan ahead for retirement)
- Ability to manage risk (eg through savings and insurance)

To the economy

- Facilitates trade
- Accelerates economic growth and job creation
- Reduces financial crime and tax evasion
- Reduces income inequality

Financial inclusion is viewed as important both for individuals and for the economy as a whole.

We have already touched on the way that access to a bank account or other payment services enables payments to be received and made more safely and conveniently than cash. Storing cash at home leaves people vulnerable to theft as does sending cash long distance by informal means, such as with friends or local bus services. Access to banking can also be less costly, since sending cash with friends, by bus or post typically incurs a charge.

Once individuals are within the formal financial system, they may gain access to other products, such as credit, savings and insurance. This enables them to invest in their own development through education or to start a business using either credit or by building up savings. It enables longer term saving particularly for life after work and to use savings or insurance to manage risks, such as being unable to work due to illness or crops failing.

Increasingly, it is argued that financial inclusion is important for economies as a whole. Rapid, safe, convenient payments and access to credit oil the wheels of trade and enable expansion beyond purely local markets. This drives economic growth and jobs. Shifting transactions away from cash into the formal audited financial system makes money laundering, financing crime and tax evasion more difficult. And financial inclusion can reduce inequality by reducing the extra costs associated with the cash economy and opening up education and investment opportunities.

Our recent research



Part of this workshop will draw on research that I recently conducted with Sharon Collard, until recently head of research in the Business School's Public Understanding of Finance (PUFin) research centre and members of the Consumer Insight Department at the Financial Conduct Authority (FCA), one of the UK's financial regulators. The research was published as an FCA Occasional Paper in May this year, launched by the Financial Inclusion Commission and is the main basis for evidence that we have submitted to the current House of Lords Select Committee on Financial Inclusion.

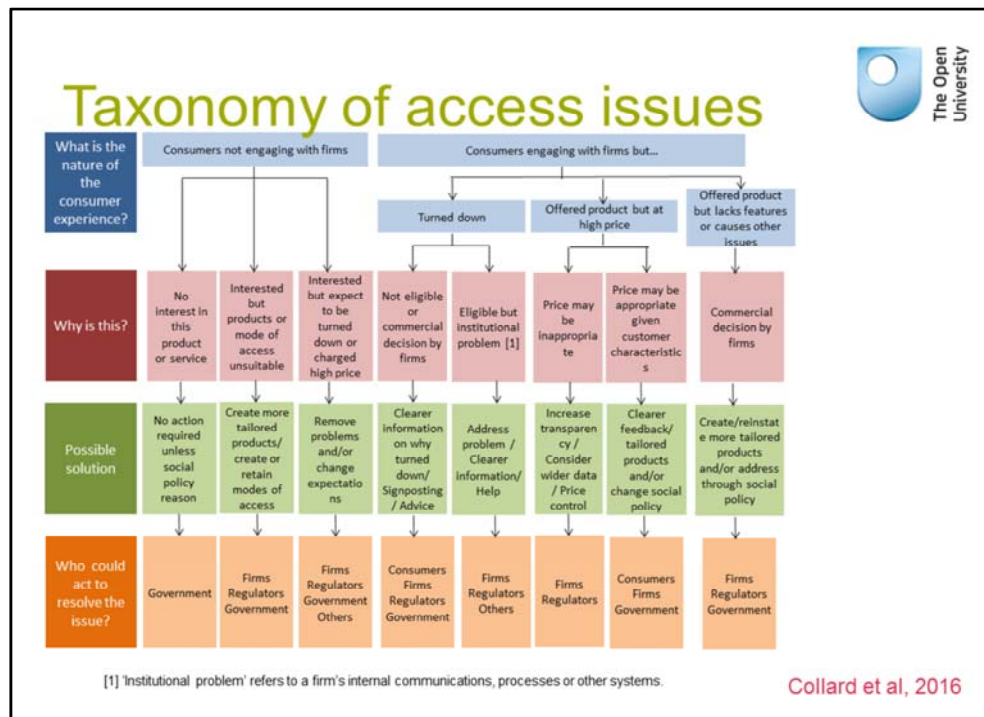
We were looking at access to financial services in the UK through the lens of five major social and technological changes:

- digital innovation, particularly the impact on banking – and this is the area I will focus on today. The other changes were:
- crime prevention, particularly the impact of the Know Your Customer and Anti-Money Laundering rules
- automated processes that impact on access to credit and also insurance
- Increasing segmentation in insurance markets, and
- how the ageing population plays into access to mortgages and insurance.

While access is only part of financial inclusion, you can see that we have been using an expansive definition that maps closely to inclusion as a whole.

The research took the form of a literature review across each of the five areas covering both published and unpublished sources, interviews with key policy influencers within the regulator and commissioned qualitative research with

consumers and external experts.



Key aims of the research were to understand the causes of access problems, to identify the groups at risk and to explore how the problems might be resolved.

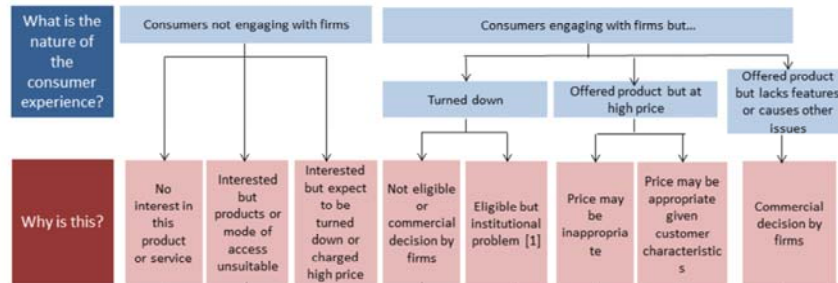
Organising our findings from the study of the five social and technological changes, we created a taxonomy of access issues.

This distinguishes eight different categories of access problem, each of which can be mapped through to the types of solution that might work and which of the stakeholders would be in a position to make the solution happen.

We grouped stakeholders into:

- Government as the body that can drive policy either directly through legislation or by framing the debate through rhetoric, funding and so on
- Regulators who may be able to use their rules to enforce behaviour, set principles to persuade providers to act in certain ways and market studies to make issues visible
- Firms who choose how to deal with customers and potential customers. We included their trade bodies whose agenda tends to reflect the largest firms within an industry but sometimes also have a role in pre-empting legislation or regulatory change.
- Consumers, who may in some cases be able to resolve a problem themselves either as individuals or through collective action.
- Other. Here is where we have put organisations that represent consumers and those with a remit to provide information and guidance, such as the Money Advice Service.

Taxonomy: the issues

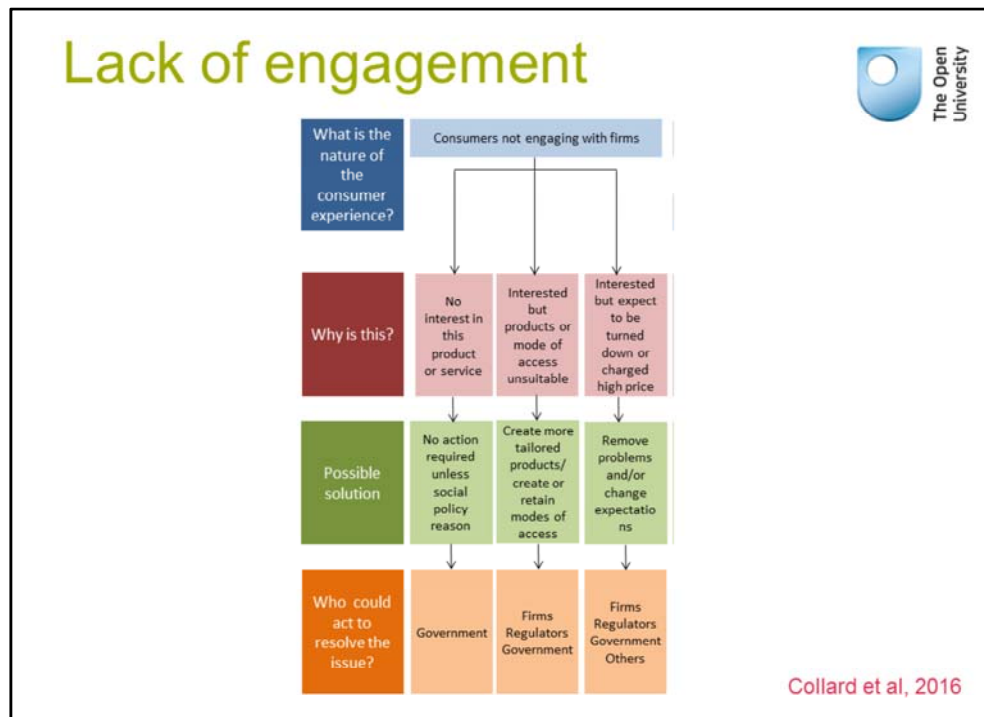


Collard et al, 2016

The eight categories of problems are shown here ranked from the lowest level of consumer engagement on the left through to the highest level of engagement on the right.

We distinguished between consumers being engaged or not, because it can be particularly difficult to address problems where consumers are not actively participating in a market. Frequently, this means that there is low awareness of a problem, no data being gathered about its scale and no clear remit for any particular stakeholder to do anything about the issue,

In this workshop, I will be focusing mainly on these 'lack of engagement' categories of problem, but the other categories may be relevant and, in practice, the situation a consumer finds themselves in may straddle more than one category.



The rationale for dividing problems into these categories was to distinguish the different types of solution that might be required.

For example, at the most extreme, lack of engagement may be that consumers are simply not interested in taking up the products or services available because they do not perceive themselves as having a need or want for them. In one sense, you could say there is no problem. However, if there are benefits to society as a whole in mass adoption of these products and services, then there will be a need to persuade or force these consumers into the market and that is most likely a role for government to take up.

In the next category, consumers are expressing a need or want, but cannot identify products or services that meet their needs. Existing or new firms are best placed to respond to that unfulfilled demand. However, there may be commercial reasons not to – in particular, meeting the needs of low-income households might not seem profitable. In that case, government may need to step in, for example, requiring access to basic banking products. To the extent that firms attempt to sell consumers existing but unsuitable products, there may also be a role for regulators. Government and regulators may also need to create the right environment for novel solutions to flourish.

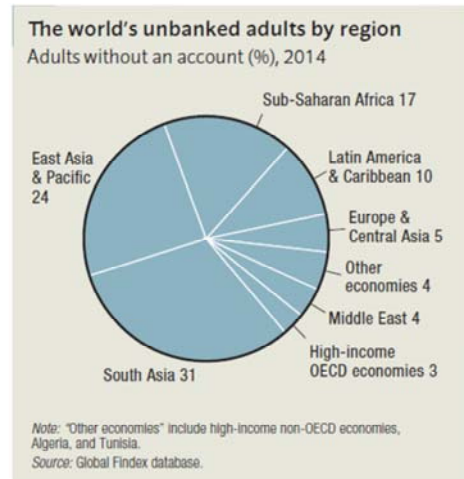
As we contrast digital innovation as solutions to financial inclusion in developing and developed countries, I shall refer to this taxonomy as an organising framework for understanding the problems faced and solutions

adopted.

Global financial exclusion

- 38% of adults – 2 billion – are ‘unbanked’.

% of total unbanked



Demirguc-Kunt et al, 2015

So what is the scale of financial exclusion at a global level. If we take the narrow definition of being excluded from banking or equivalent payment services, data from the World Bank suggests that 2 billion people around the world are financially excluded.

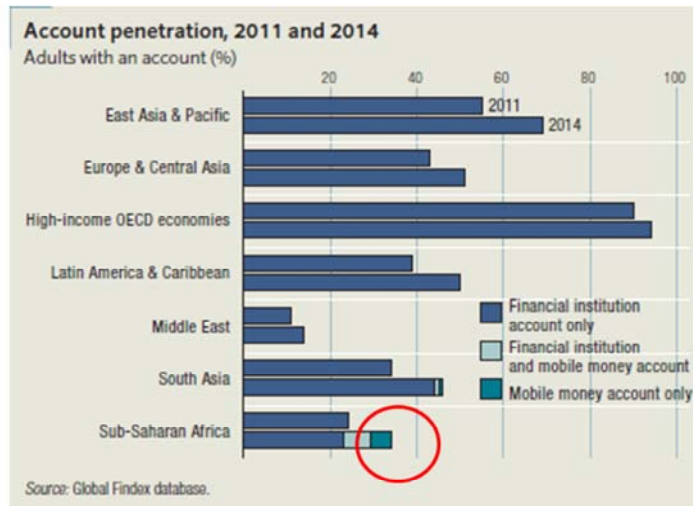
Only 3% of these are in high-income OECD countries like the UK, where only 3 per cent of households do not have any type of transactions account*.

Nearly a third of the world's financially excluded are in South Asia, 24 per cent in East Asia and the Pacific and 17 per cent in Sub-Saharan Africa.

* Family Resources Survey 2014-15

<https://www.gov.uk/government/statistics/family-resources-survey-financial-year-201415>

Growth in inclusion



Demirguc-Kunt et al, 2015

The World Bank started collecting data on financial exclusion in 2011.

This chart shows how inclusion has increased between 2011 and 2014. Over that period, the number of unbanked adults has fallen by half a billion. The fall is due in part to an increase in adults entering the formal banking sector.

However, in Sub-Saharan Africa, a sizeable contribution to the increase in financial inclusion is due to mobile money accounts either held alongside a bank account or as a substitute.

Care needs to be taken with this comparison, because mobile money accounts were not included in the 2011 data despite their having been introduced from 2001 and starting to take off in Sub-Saharan Africa from 2007.

In 2011, there were already 120 global mobile money services in existence and this has more than doubled to 271 by 2015*.

*GSMA State of the Industry Report 2015.

Mobile money accounts

'Mobile money has done more to extend the reach of financial services in the last decade than traditional "bricks and mortar" banking has in the last century.'

GSMA, 2015



Image from <http://bizintelnq.com/africa-mobile-money-remittances-to-hit-33bn/>

What do we mean by mobile money?

As the name suggests, these are services that can be used to transfer and store value using mobile phones, largely bypassing the need for formal banking. It is an example of digital innovation that is enabling poorer countries to leapfrog the development of a formal financial services sector.

It has been claimed that mobile money has done more for financial inclusion in the last 10 years than formal banking has in the last century.

The most famous and successful example of mobile money to date has been M-PESA in Kenya.



The story of M-PESA is an interesting one.

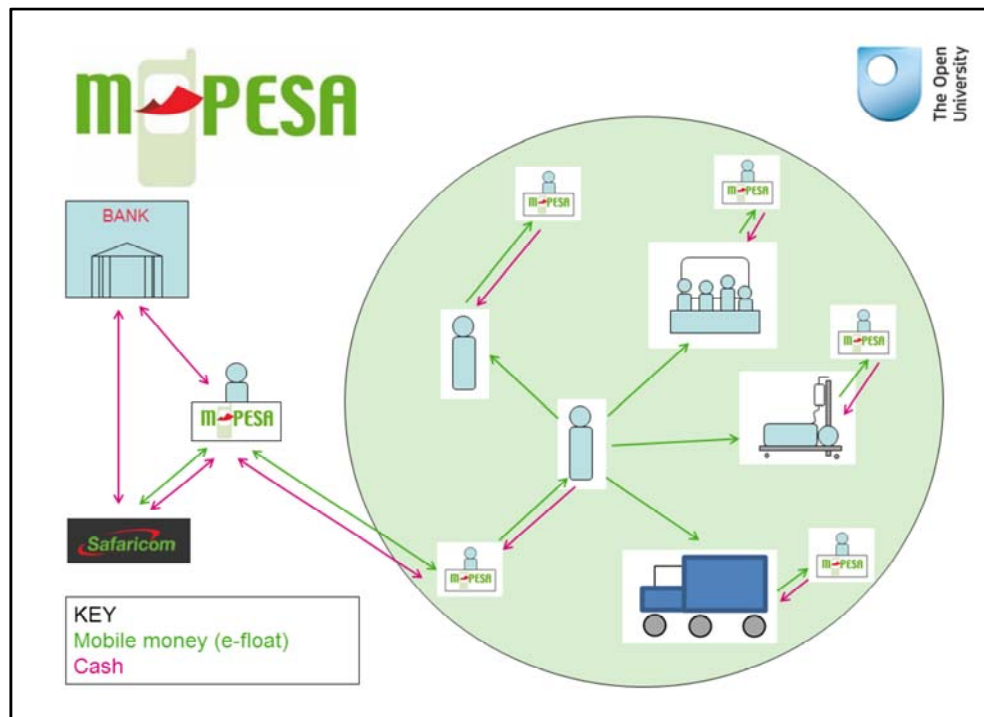
It starts with the UK's Department for International Development (DFID). In 2002, it funded research into expanding access to phones and the internet in the poorer regions of Africa and similar countries.

The research took place in Botswana, Ghana and Uganda and, across all three countries, an innovative use of mobile phones was observed: people were spontaneously buying mobile phone airtime but, instead of using it themselves, they were transferring it to other people as an informal virtual currency.* (So pay cash for a code that you key into your phone to top it up, but instead of doing this send the code to someone else by text message. They can then either sell the airtime on to someone else or use it themselves.) While this was an inventive work-around to a lack of access to banking services, it had disadvantages, in particular being unable to split an airtime purchase into smaller units.

However, this indicated existing demand for a mobile payments service and led to a pilot in Kenya, initially aimed at facilitating microfinance loan repayments but spontaneously also used for domestic remittances – typically where a family member works in urban area and periodically sends money back to the rural home.**

*Bachelor (2012)

**Story of M-PESA <https://www.youtube.com/watch?v=i0dBWaeN3aQ>



This demonstrated appetite for mobile payments services led to the launch in 2007 of M-PESA by Safaricom, Kenya's leading mobile network operator, in partnership with Vodafone.

By the end of 2007, M-PESA had over 1 million customers and today it has nearly 20 million users in nine markets and a network of 273,000 agents. In Kenya, 67% of adults (17 million people) have a registered mobile money account and, of these, 99 per cent are with M-PESA. This compares with 27% who have a bank account and 11% having an account with a non-bank institution (such as a SACCO (savings and credit cooperative organisation)).*

The diagram shows how M-Pesa works. In some respects, no different to other forms of digital money such as debit cards and pre-payment cards, but key differences:

- Simple to open account – just one form of ID (banks require more)
- Can be used from anywhere with a mobile signal so convenient
- Simple to use because SMS system not sophisticated apps
- Cheap, partly underlying costs low but also phone provider makes money from the mobile contract. For example, when introduced, sending 1,000 Kenyan shillings cash remittance by bus typically cost 175 Kenyan shillings, post-office 75 and M-PESA just 30.**

76% of Kenyans own a mobile phone and 93% have access to one. Only 24% have a smart phone.*

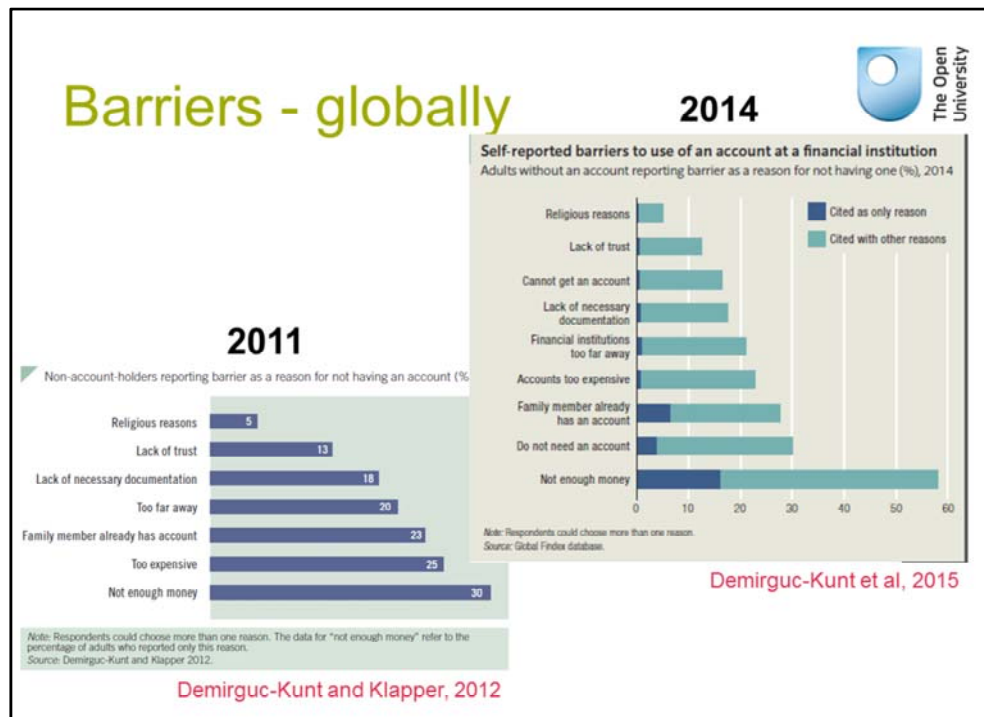
M-PESA is evolving and account holders gaining access to other financial products through tie-ups between Safaricom and traditional providers and setting up of new online-only providers. Examples are M-Shwari, an interest-paying savings account that accepts even tiny deposits. Also access to credit and insurance.

Not without problems though – eg agents running out of cash or e-float.

*Financial Inclusion Insights

<http://finclusion.org/uploads/file/reports/InterMedia%20FII%20Kenya%20Findings%20Wave%203%2022%20April%202016.pdf>

**Morawczynski (2009).



These charts show World Bank data on the reasons unbanked adults give for not having a bank account or equivalent.

The dominant reason is not having enough money. In 2011, this was cited by 30 per cent as the only reason excluding them from an account. By 2014, the percentage had halved to around 16 per cent. The reason for this may be the growth of mobile money accounts.

Mobile money accounts can be used for tiny transactions and are much cheaper than banks.

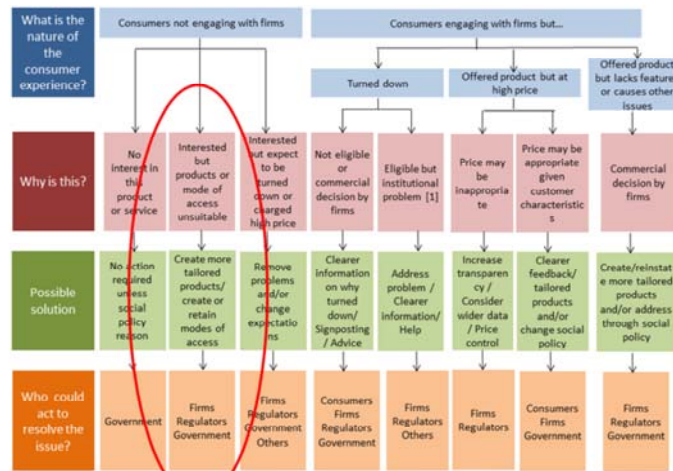
However, not everyone is part of this digital innovation success story. While the cost of mobile phones is fairly consistent in dollar terms across the world at around \$200, this represents hugely varying proportions of average income, ranging from 47% of average annual income in Turkey, 22% in Tanzania but just 1% in Germany and 0.6% of annual income in Japan.*

In Kenya, mobile money usage is lower among women, those who live in rural areas and most significantly among those living below the poverty line.**

*KPCB Internet trends 2016. Income measured as GNI per capita.

**Financial Inclusion Insights 2015 Kenya.

Taxonomy of access issues

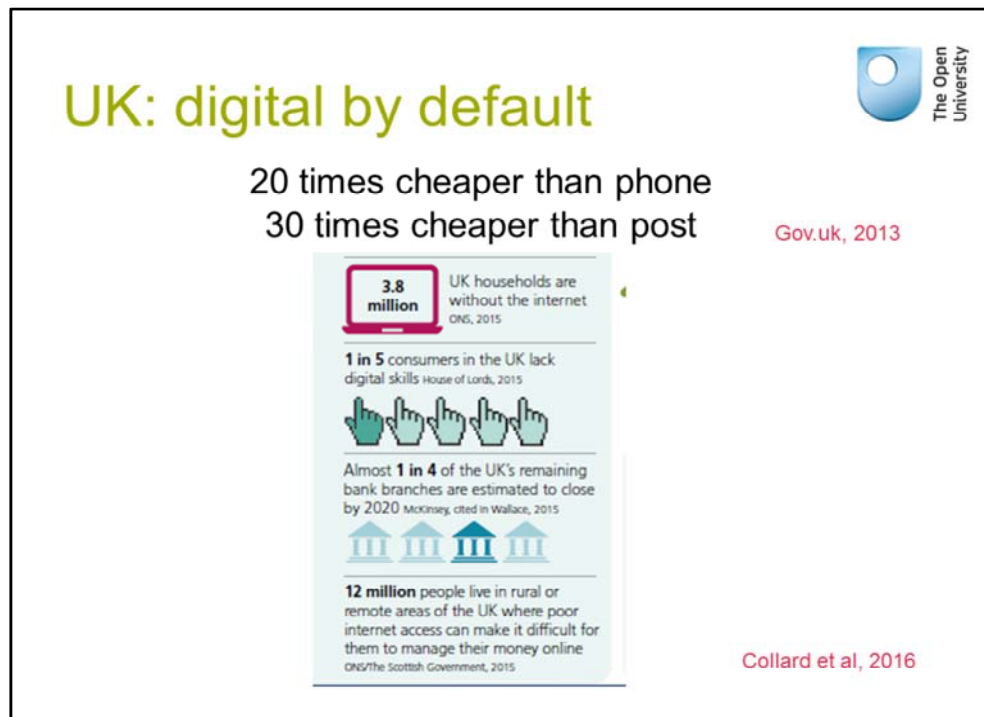


Collard et al, 2016

In terms of the taxonomy of access issues, Kenya seems to be an example of consumers not engaging with existing financial products and services, even though they had a desire for them – as evidenced by their work-around of trading airtime as a currency.

The ideal solution was for firms to develop more suitable products. The banks failed to do this, largely because of the lack of profit in serving low-income customers and the high cost of bank infrastructure in terms of branches and ATM networks. However, mobile phone operators stepped in instead.

This evolution of innovative digital solutions has been supported by governments and regulators. For example, the UK government funded the initial research that led to M-PESA emerging; the Kenyan government allowed M-PESA to go ahead experimentally without financial services regulation applying. The need for this type of support and facilitation may be one reason why mobile money has been yet to grow quite so explosively in other countries as it has in Kenya (and to some extent Tanzania).



Digital innovation is also a dominant feature in UK financial services.

In 2015:

- 87% of UK adults use the internet
- 66% use a mobile phone to go online
- 16% only use mobile devices to go online (up by 6 percentage points on the previous year)
- Of those who use the internet, 63% bank online.*

However, the UK is a very different environment from Kenya.

As already noted, 97% of UK adults have a formal transactions account – 96% with a bank, rising to 97% if the Post office Card Account is included.**

The UK and EU government's approach to dealing with financial exclusion has been to require banks to provide basic bank accounts. So while M-PESA brings financial services to the unbanked, the approach in the UK is to bring the unbanked to existing financial services.

Both government and banks have been promoting digital services largely because of the huge cost savings compared with traditional ways of doing business. While the majority of the population has adopted digital by choice as a convenient way to manage their finances, significant numbers of UK adults and households find themselves financially marginalised because they are digitally excluded, as shown in the graphic.

*Ofcom, 2016.

**Family Resources Survey 2014-15.

Barriers to going online



Reasons UK households give for not using the internet

Reason	Proportion of households giving this reason % of households ¹	Number of households giving this reason Millions of households ²
Don't need internet	53	2.0
Lack of skills	31	1.2
Equipment costs too high	14	0.5
Access costs too high (broadband, phone)	12	0.5
Have access to internet elsewhere	7	0.3
Privacy or security concerns	5	0.2
Physical or sensorial disability	5	0.2
Other reason	14	0.5

ONS (2015a); ONS (2015b)

"I don't go online – never have done, never will."

Consumer, Newcastle, Rowe et al (2016)

The digitally excluded tend to be older age groups, low-income households and people with disabilities. For example:

- 13% of 55-64 year olds never use the internet and 28% of those aged 65-74 rising to 58% of the over-75s.
- 32% of low-income adults have never used the internet (but only 8% where they have children)
- 36% of people with disability never use the internet.

The reasons given for not using the internet are shown above. [discuss table]. The most common reason is having no need to go online. These UK consumers are starting from the position of already having access to safe, convenient alternatives to cash through the established banking system and physical or phone-based ways to access other services, such as savings and insurance. Currently, they see no reason to change.

A further large group feel they lack the necessary digital skills and there are initiatives to help this group coming from banks and, where they survive austerity cuts, public libraries.

Generally other reasons are either poorly addressed or not at all.

UK banking data



1.71 million adults were, personally, unbanked in 2013–14 (up from 1.5 million the previous year)

Rowlingson and Mackay, 2016

	%	Age										Gender		Socio-economic/ income					Location/ nation								
	All UK 16+	16-24	25-34	35-44	45-54	55-64	65-74	75+	55+	65+	75+	Male	Female	ABC1	C2DE	DE	Unemployed	Low income	Low income/ children in home	Urban	Rural	England	Scotland	Wales	N Ireland	BAME	Disability
% of all who use the internet at home or elsewhere	3100	505	577	570	518	469	323	930	461	138	1471	1629	1731	1366	723	207	363	140	2267	833	1899	405	401	395	208	457	
Bank online ¹¹	63	61	76	71	67	52	47	49	44	38	64	63	69	56	48	46	45	54	63	65	65	53	64	62	61	50	
% change (UK) since 2015	+2																										

Ofcom, 2016

Lacking online access, unsurprisingly, the use of online banking is also low for the same group: older people, low-income, disabled.

So, while the UK has conventional financial exclusion in the form of 1.7 million adults who are ‘unbanked’, it also has newly emerging groups who feel they are becoming excluded as their traditional ways of engaging with financial services start to disappear.

At first, online banking was an option, a matter of personal choice. But banks are shrinking their costly branch networks and even their support for phone-based banking.

Initially, the government brokered schemes to retain access to physical banking with initiatives such as the last bank in town which have been watered down to a requirement to consult local communities on the alternatives when their local bank branch closes. All the main banks have struck deals to provide basic deposit and withdrawal services through Post Offices, but the Post Office branch network has also been shrinking and rural dwellers especially can find themselves six miles from their nearest office.

Arguably the tipping point has passed, so the emphasis is no longer on protecting consumers’ ability to bank physically. Those who do not yet do so will increasingly be cajoled or forced to switch to online services.

Barriers to finances online



"I've read about it in the paper. They say look for that padlock to know it's secure but I've read that hackers can fake that too." (Consumer interview, Yeovil; Rowe et al, 2016: 42)

"My son told me that I could get a better deal online, but I just find the idea of not being able to pop in to talk to someone so stressful that I couldn't go for it." (Consumer interview, Yeovil; Rowe et al, 2016: 42)

"One of the main practical issues that disabled people face when accessing financial products is around digital exclusion. Businesses need to look at how accessible their websites are as well as looking at their customer service provision."

(Expert interviewee)

"I help my piano teacher because he just can't see well enough to look at his accounts online." (Consumer, Leeds)

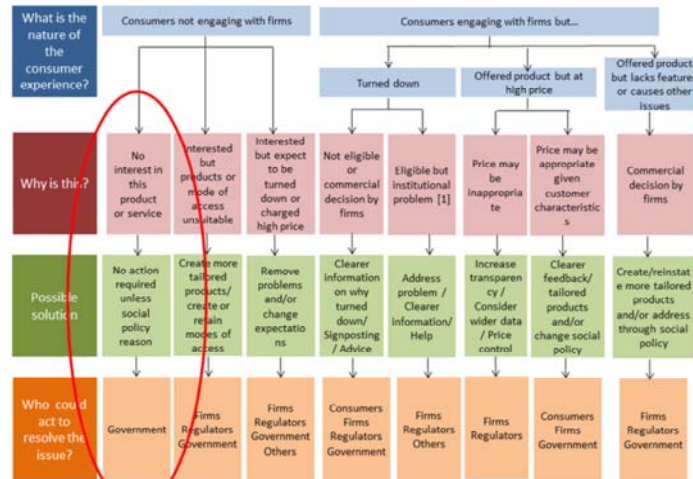
"I want to try and do my banking on my own...but the bank isn't making it that easy for me." Mary, 81, widowed. Struggles with computers; the 'girls' at the local branch help her pay her bills, but branch about to close down.

Rowe et al, 2016

The Access to Financial Services in the UK research was partly informed by qualitative research that took the form of interviews with consumers identified as potentially vulnerable to access problems and experts typically in consumer groups who represent them. These are how they voice some of the reasons for not embracing digital innovation in financial services.

There is a clear sense of resentment, fear and exclusion.

Taxonomy of access issues



Collard et al, 2016

In terms of the taxonomy of access issues, digital innovation mainly raises the issue of consumers showing no interest in the online products and services on offer.

I have a good friend who does not have the internet and, when challenged, is fond of saying: 'to which of my problems is the internet the answer?'. As digital innovation increasingly impacts on the delivery of financial services and alternative modes of access retrench, problems will be created for consumers like this, so they may over time gravitate to the second category in the taxonomy.

In the meantime, these consumers do not perceive themselves as having an access issue. However, if society as a whole wants to accelerate the shift to a digital economy, only the government is in a position to override their consumer choice with either carrot or stick.

Inclusion or exclusion?



	Developing economies	Developed economies
Firms	Lack of products Build on consumer work-arounds Build brand loyalty and customers	Legacy products Educate consumers out of work-arounds Cost savings servicing existing customers
Consumers	Meeting a need	Taking away choice
Regulators	Enable new technological solutions	Encourage development of new technology
Government	Grow financial inclusion, promote economic growth	Reduce costs, promote economic growth

From the consumer perspective then, whether digital innovation promotes financial inclusion or exclusion depends on the context within which it happens.

[discuss chart]

Even though digital access to financial services is capable of delivering benefits to all consumers, the transition may be painful for those who are content with earlier stages of financial development. But for consumers excluded from those earlier stages, innovation can leap frog them into a new and welcome state of inclusion.

Key points from the Q&A



- Consumer needs may be genuine or manufactured by the context or withdrawal of services.
- Banks' failure to meet needs of some sectors of population creates demand for alternatives.
- Mobile banking shifts responsibility for managing liquidity from banking sector to agents who bear significant risks transporting and storing cash.
- Cost of mobile phones is not necessarily barrier even for the very poor. Second hand phones only \$15 say and M-PESA runs on any mobile, does not need sophisticated phone.
- Data in the slides refers to active accounts (defined as used within 30 days), so data should not be inflated by dormant accounts.
- Mobile money is a platform for transferring value. Does not itself offer credit, but providers can link to the platform to offer credit. Some credit providers use data on how M-PESA used to assess creditworthiness of borrower (eg regular small top-ups associated with good credit repayments record).
- Financial inclusion assumed to be positive. However another example of financialisation – ie involves intermediaries who take a slice of the money in fees. Not possible to hold digital cash cost-free as can with real cash. (Analogy with digital shareholdings.) Digital money makes negative interest rates possible.
- Digital money exposes holders to banking crises. M-PESA only as secure as Safaricom's deposits with banks. Kenya had deposit protection for individual banking customers but Safaricom accounts not insured. Lobbying to pass through deposit protection to M-PESA end users not successful so far.
- Not just rural areas that have poor digital access – urban 'not-spots' too.
- Alternative to taxonomy could be network analysis – worth exploring.

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