Digital money

$60 trillion – total sum of money in the world (M2)

90% – share of money in the world already digital

Digital money

Cash continues to be gradually replaced by digital money, providing consumers with more convenience and choice – and organisations with lower cost transactions. Wider adoption enables new offers to proliferate.

Money is not coins and banknotes; it's anything that people are willing to use in order to represent systematically the value of other things for the purpose of exchanging goods and services. Money enables people to compare quickly and easily the value of different commodities, to easily exchange one thing for another, and to store wealth conveniently. Before coins and banknotes, different cultures chose objects or materials to represent value: shells, cattle, skins, salt, grain and cloth.

The sum total of money (M2) in the world is about $60 trillion of which c. 1/10th is held as coins or bank notes. The remaining 90% is held as digital money on computers servers; the vast majority of transactions by value are executed by moving electronic data from one computer file to another without any exchange of physical cash.

The on-going adoption of digital money has been driven by three factors. The first factor is that digital money is cheaper than cash to handle, cash costs society as much as 1.5% of GDP. Savings arise from: 1. Reduced administration costs (governments can save up to 75% with electronic payment programs). 2. Reduced security costs and loss of funds from theft (75-80% of the $22 billion in benefits of shifting India's government payments to electronic would come from reducing leakage of funds in government transfer schemes ending up in the wrong hands). 3. Reduced costs from saving time or transportation.

The second factor is the ability for people and systems to connect digitally, enabled by the growth of mobile and fixed line networks, and underpinned by maturing technology standards and protocols (e.g. credit and debit card payment schemes; SEPA – the Single Euro Payments Area). Increased connectivity is also at the core of efforts to increase financial inclusion through digital money, where a lack of bank and cash infrastructure and ability of individuals to authenticate their credentials is traditionally cited as an underlying challenge. Safaricom's M-Pesa solution in Kenya demonstrates how connectivity can assist in leapfrogging traditional cash-based infrastructure.

The final factor driving adoption is mobility. People, devices and transaction locations are literally moving and consumers are seeking more convenient ways to pay. Consumers can and want to shop from their own home, send a payment from an app on their PDA, wave a contactless card to use mass transit or pay for their Uber ride automatically. And as people have migrated, so too has boomed the digital money of International remittances.

Cash costs society as much as 1.5% of GDP.

Changing business

On a twin track to the three underlying drivers comes innovation and competition. As banks and payment schemes struggle to cope with legacy technology and stifling regulation, new entrants have arrived. AliPay and ApplePay seek to offer more convenience to consumers whilst increasing the firm's share of the financial transaction. In the case of Square, Paypal and Stripe, the competition is aiming to reduce the cost of accepting digital money or making digital payments. These new entrants in the main seek to digitise and substitute previous cash-based payment. The most disruptive new entrants may prove to be the crypto-currencies, for example Bitcoin, and the associated underlying and de-centralised blockchain technology.

Alongside the commercial innovation sits moves by both governments and central banks to accelerate the move towards digital money. While reduced costs form part of the logic to do this, so too does the inherent ability of digital money to carry a negative interest rate, something which it is not possible to do with cash. In Denmark, the Government has gone further, announcing in 2015 that selected retailers will be able to refuse cash, paving the way for a truly cashless society. Supporters say that not only will this enable banking systems to become more productive but that it will also ensure that taxes will be paid and only legal transactions will take place, putting pressure on both the informal and black economy.

One downside of the shift to digital money has been the enormous growth in fraud. According to Nielsen, the cost of global payment card fraud reached $16Bn in 2014. The theft of $450m from MT. Gox, the worlds leading Bitcoin exchange, in 2013 provided another example of the downside potential of digital money.

But while many have hailed the "end of cash", its death appears premature. Physical money has been with us for thousands of years for a reason. Cash is essentially untraceable, it's easy to carry, it's widely accepted and it's reliable, even if the power goes out. There is, arguably, simply no alternative system of payment that is as convenient, reliable and anonymous. Libertarians are at pains to point out the benefits of retaining economic privacy, not having digital money transactions surveilled or giving government the ability to block payments or central banks more power. The result, as can be seen in the US, is that the absolute value and volume of cash in circulation has continued to grow.

The most disruptive new entrants may prove to be the crypto-currencies.

Looking ahead will see the existing payments and banking chain spreading out and fragmenting, leading to further growth in non-traditional financial institutions seeking to control the payments interface and developing their own financial services (e.g. Amazon Payments, Amazon Lending Programme) and retail offers (e.g. Alibaba, Google Shopping). To enable this, there is also likely to be further collaboration between organisations (e.g. device manufacturers, telecoms players, associations, banks e.g. Google Wallet). There will also be growth in alternative currencies and money networks, and the first state issued flat digital currencies.

Consumers will continue to adopt digital or contactless payment over cash and digital wallets will start to eclipse the physical wallet. Checkouts will move from place to device as payments continue to shift from an active to a passive process (e.g. as exists today in exiting your Uber ride). To combat fraud, and keep transactions simple and safe, multi-factor authentication will become the norm (e.g. growth in real time geo-tagging, biometrics and tokenization), with more appropriately authenticated transactions taking place.

More digital money will bring about increased socio-economic mobility, increase the ability for itinerant workers to live and work in a new country, and will enable 1Bn more people to be financially included within 10 years.

Multi-factor authentication will become the norm.

Related insights

Currencies of meaning

New trusted currencies of exchange and meaning emerge to better facilitate transactions, trade, authentication and validation. Money is complemented by new systems to which we attach greater significance.

Data ownership

Individuals recognize the value of their digital shadows, privacy agents curate clients' data sets while personal data stores give us transparent control of our information: We retain more ownership of our data and opt to share it.

Full Cost

Increasing transparency of society's reliance on nature, intensify requirements for business to pay the true cost of the resources provided by 'natural capital' and so compensate for their negative impact on society.

The increasing value of data

As organisations try to retain as much information about their customers as possible, data becomes a currency with a value and a price. It therefore requires a marketplace where anything that is information is represented.