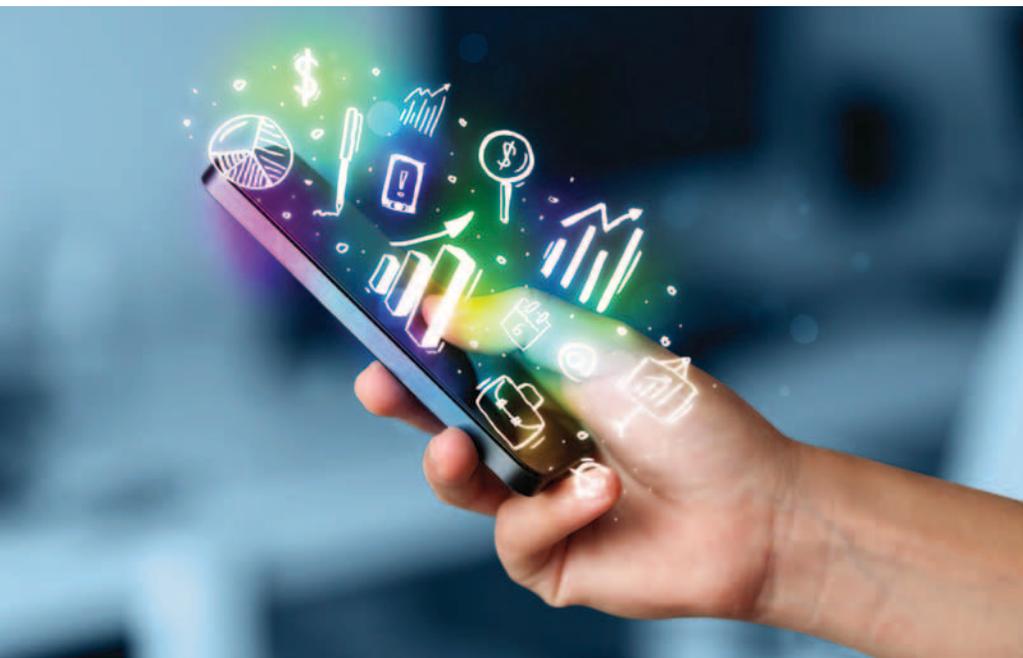


Smart economy — Smart(er) banks?

A smart economy, characterised by decentralised data and digitised financial infrastructure, is the inevitable future. Existing financial services institutions need to re-assess the way they deliver and function in a more data-driven economy or lose to new players

By Urs Bolt



Nowadays, technology is omnipresent. Consumer technologies and platforms are developing rapidly and we can already see many examples of these trends in our daily lives: smartphone apps and wearable technologies, cloud-based services, big data and artificial intelligence, robotics, and many more, especially the internet-of-things (IoT).

Less obvious are the fundamental long-term economic, societal and demographic changes technology brings. The demography of the population will be radically different decades from now, it will resemble an upside-down pyramid (people get older

with less children). The millennials are born as digital natives; they are always online and have access to services 24/7. Also, the rise of the middle class in countries such as China, India, and South East Asia but also in Africa will have a profound impact on the global economic balance and wealth distribution. Many people now worry about of the fragility of the earth's ecosystem, environmental footprint and climate change. An important driver of change is how work will be done in the future; a sign of that is the expansion of the freelance and gig workforce. These

changes will also have an impact on the social welfare systems of the developed countries and emerging economies.

The above-mentioned factors support the development of platform economies followed by network economies, also called "smart economy" driven by connected businesses, consumers, its devices and objects.

Currently, the technological progress is increasingly dominated by centrally managed platforms. This is an intermediate step towards a decentralised network economy which will be the foundation for a truly digital and smart economy.

The vision of a smart economy is to digitise all assets and allow 'trustless' digitised commerce. Forming the future of commerce needs the support and engagement of the society, i.e. individuals. This can be best achieved by open source technologies and concepts.

Decentralisation will be a natural evolution operating within a new regulatory framework. Realistically, the adaptation of legal frameworks will take time and will run through political processes; most probably leading to a balanced decentralisation.

The most important technological characteristics of a smart economy are decentralised data and process infrastructures. Blockchain technologies, smart contracts, distributed ledger technologies and digital identity solutions are elements needed to digitise the economy and its ecosystems.

It is unclear how banks will (re)act in such an agile, connected and hypercompetitive environment. Fact is that the world is becoming more complex and fragmented. This is also caused by a rapid increase in regulation and the unfortunate current trend of protectionist measures by the two biggest economies.

The role of banks in the era of a smart economy

As technology is evolving, so will the role of banks. In the future, most transactions (e.g. payments, currency conversions, crowdfunding) will be completed outside of the conventional banking system. In a smart economy, where billions of bits of data will be exchanged every day, these

processes will simply move to new value exchange layers with near- and real-time payment mechanisms.

A smart economy and its financial ecosystem built on the Blockchain will have new features and characteristics unknown today, including:

Transparency

1. pricing
2. products and services discovery
3. reputation

Network

- Network effect: exponential growth of the community and its value (Metcalfe's law)
- No fragmentation on the infrastructure level
- Everyone can compete at arm's length
- Elimination of counterparty risk
- Unbundling of services (transparency and pricing)
- Low service provider switching cost
- Small vendors will be more competitive
- High competition, low margins

The obvious question is, how today's banks will remain visible in the daily life of the individual, freelance and gig workers, small to medium businesses.

Banks will certainly still execute large infrastructure financing transactions and therefore be part of the projects implementing the digital infrastructure supporting a smart economy. But that won't be the main revenue source as there is global competition in wholesale banking. The true sustainable value creation will be in the exponential growth of the economies driven by the technological progress.

As stated before, new business models require new operating models. Let's look at the example of freelancers. Today, they often struggle with simple tasks, e.g. billing their clients. They may even hire an accountant to do that, then wait for weeks after the invoiced amount is credited on their accounts and, in the case of cross-border business, also suffer from hefty payment fees and exchange margins. Furthermore, there are costs for billing, invoice monitoring and accounting.

In the future, financial intermediaries as transaction brokers will no longer be needed; value creation on micro level will be immediately remunerated on a peer to peer level. Economies of scale will reach new unprecedented levels: billions of payments among billions of freelance and gig workers create an even larger transaction volume. In this new reality, payment infrastructure has to allow a continuous flow with near- and real-time execution.

How will banks fit into the new world?

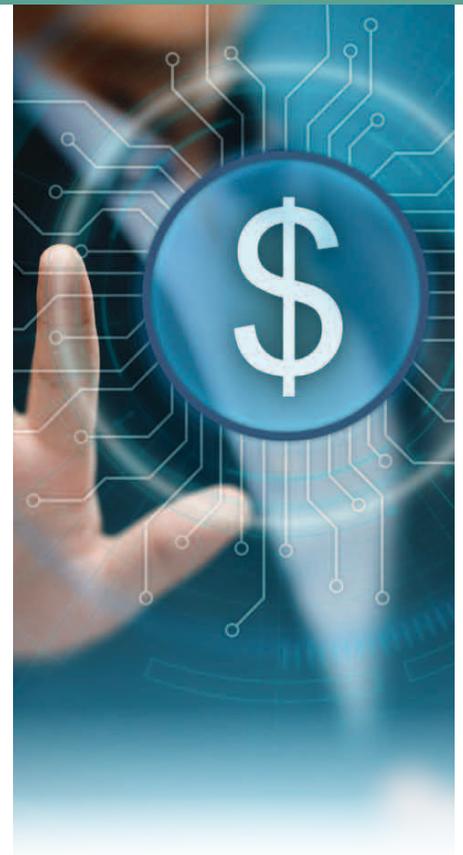
There are three scenarios for the banks in the future:

- **Banks will be disintermediated by third parties.**
Banks will be relegated to being just a transactional data provider; a supervised legal entity managing balance sheet, credit and liquidity risks of the legacy debts/assets of the old financial system.
- **Smart economy — Smart(er) banks?**
Forced by the regulators, the "new" financial services providers will have to collaborate with banks as they act as the regulatory gateways for the supervisory bodies.
- **Banks will become custodians (stores) of value.**

In the first and second scenario banks will become invisible for most people. They will focus on wholesale (B2B) banking, private and public infrastructure financing. Only few will be needed and survive (just enough to diversify systemic risk). Nonetheless, these banks will have an important function to safeguard the systemic risk of the legacy financial system.

Just offering what is on a bank's product and service shelf will no longer be sufficient as clients won't have time anymore to check and compare products, services and costs. This will be performed by intelligent (ro)bots crawling for services in the open banking space.

Banks will no longer be the first touch-point, as transaction- and relationship-oriented businesses and individuals follow the most easy-going way and flow of (inter)actions. Context-based banking will



dominate as a paradigm in the era of platform economies followed by peer-to-peer interaction when the network economy is gaining ground.

Now, let's have a look at the third scenario. In a smart economy, basic financial services, such as payments, accounts, loans and assets, will move to the Blockchain. As Blockchain provides inherent trust (integrity, transparency, auditability) by itself, banks need to find new ways to create value for the economy and society.

We should be aware that client expectations remain the same as ever:

- Stability,
- Trust,
- Empathy
- Quality,
- Brand and reputation.

But as in other areas, technological and societal developments have changed the context of client expectations. Because of that, I believe that there is still a lot of value in financial knowledge and highly regulated entities.

The smart economy will require a new financial ecosystem which will be provided by new players with new business and operating models. As central counterpar-

ties and financial intermediaries are no longer needed in a smart economy, financial services can only be of value if they provide knowledge which either cannot be automated, require coordination because of its complexity or a status of trust. Such services will be provided on top of smart economy infrastructure and processes.

Banks that understand this paradigm shift will be able to adapt to the new reality (scenario 3 listed above). The new services may include:

- Complex services: Complex transactions, e.g. financing large infrastructure projects (syndicated with other private funding partners incl. crowd-funding partners)
- Exchange of value: there will still be a need for some brokerage of traditional assets, but the core activity will be a coordinating function to provide a secure and stable technical service infrastructure where security tokens and utility tokens for micro services, e.g. referring a lead, permissioned use of personal data, etc. will be exchanged (peer-to-peer).
- Custody of assets: safe and secure custody of traditional physical and digital assets also including, with increasing importance, tokens representing real assets
- Digital identity services: offering digital identity, authentication, verification and authorisation services to businesses and individuals. This may include white labelled solutions to other businesses. In a smart economy context, this requires a full stack of technologies including biometrics, blockchains, bots and IT security.
- Personal data management: Safeguarding the private keys is critical. Banks can offer clients easy access to their data.

All these new services will require the building of a Blockchain-infrastructure and its integration into the smart economy.

Blockchain-based identity will underpin smart economy banking

Digital identity is a cornerstone and an indispensable prerequisite in a smart economy. Instant execution is a necessity for businesses today and even more so in a network economy as there will be a

continuous flow of processes connected on the Blockchain(s) and executed by smart contracts. Without it, the individual or business would simply not be able to do any transactions.

There is the challenge of the current fragmented, uncoordinated ecosystem of digital credentials, which is creating high costs for government and taxpayers, to transform into a digital heterogeneous system, especially when it's not accepted cross-border.

Each private and legal entity will require a store of value, including each person's unique knowledge and skills. Professionally managing the personal data of consumers will allow the client to keep all the data in the same place without using paper files.

If banks want to compete in the smart economy, they'll need to incorporate block-

chain-based identity solutions that consist of the following key elements and services:

- Digital identity (eID): all the account holders and citizens will have a digital ID. Banks can provide seamless and real-time identification and verification which helps to avoid e.g. online thefts.
- Certification of signatures: this will be an important digital service.
- KYC: it is a recently introduced guideline that will protect banking system from being used by criminals for acts like money laundering and other issues.
- Onboarding services: for their own but also business clients and their end-consumers/users.

Personal data wallets will help customers to identify, authenticate and authorise them to consume services, buy products and exchange information. Advantages of personal data wallet are data portability and simple client onboarding. Consuming new services and enter into new service

relationships will be as simple as downloading WhatsApp or WeChat; chatbots (voice, context, biometrics, AI, etc.) will be digital assistants.

Banks are well positioned to become the trusted partner for managing personal data. It is one of the few ways for banks to remain visible to the public in the era of the smart economy. New data protection laws may even strengthen the case for banks to offer personal data management solutions.

Banks need to map their businesses against their target market

The rapid changes in technology, economies and societies force financial services to evolve. The sooner banks anticipate and adapt, the easier it is for them to seamlessly integrate new value propositions in the coming smart economy.

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Banks will need to review their current positioning and map it against their target market's development and evolution into a smart economy. Based on that, they can update and redefine their strategy, create a roadmap and start aligning their strategic plans. The focus will most certainly be on data analytics, re- and defocus programs and digital transformation initiatives. Critical will be to identify new strategic ecosystem partners to launch first pilot projects (walk the talk).

To summarise, a smart economy is about everything, everywhere, at any time for consumers, businesses and public services. A smart economy is based on three key elements: digital assets, smart contracts, and digital identity.

Adopters with proactive strategies will have a bigger market share and higher profitability. Those banks will remain an important and trusted partner in a more equal and transparent age of smart economies. **TAB**