2021 EDITION

INNOVATION TRENDS OBSERVATORY

THE FUTURE IS YOU

SOCIETE GENERALE

INNOVATION TRENDS OBSERVATORY

2021 EDITION

The COVID-19 crisis has been a catalyst for accelerating trends in digital adoption by our customers and new ways of working for businesses. The Innovation Trends Observatory, launched in March 2020 by the Group Innovation Division, has enabled us to decode and follow up on trends in our markets thanks to the contributions of our experts all over the world. They shared their insights and views on new and emerging trends in real estate, insurance, mobility, asset management, open banking, open innovation, data, new leadership models, banking products, private banking, investment approaches, the future of banking, and the key role of digital and technology to build a sustainable future with green finance. Discover these inspiring editions!

TABLE OF CONTENTS

#1

BIGTECHS HAVE NO MARKETS BUT 7 BILLION+ POTENTIAL CUSTOMERS, WHAT DOES THIS MEAN FOR BANKING?

PUBLISHED ON 17 FEBRUARY 2021

PARTNERING WITH BIG TECH: A MATTER OF BALANCE

BY **GUILLAUME CABRÈRE**, OPEN INNOVATION DIRECTOR,
AND **GUILLAUME MARCHAL**, GLOBAL HEAD DIGITAL PARTNERSHIPS, SOCIETE GENERALE

“The size of their user base, the scale of their platforms, their operating model and velocity make them valuable partners on our path to transformation.”

Guillaume Marchal,
Global Head Digital Partnerships,
Societe Generale

“As personalization is at the heart of their success, access to granular customer data is key for Big Techs and transactional data is one of their next coveted playgrounds.”

Guillaume Cabrère,
Open Innovation Director,
Societe Generale

As emphasized by Fabernovel (an innovation consultancy firm, famous for their GAFAnomics yearly reports), **“GAFA (Google, Apple, Facebook, Amazon) have no markets, only 7 billion potential customers”.** As per their business models, these tech behemoths aim to cover as many use cases in order to “simplify the life of their users” and keep them in their ecosystem, whatever their needs. Let’s have a quick look on different ways we see traditional organisation co-building innovative products with them for their customers.

Does it mean, though, that partnering with them mainly consists in arming them with extra datasets? Not necessarily. In fact, **partnering with BigTechs can lead to three major types of benefits:**

LEVERAGE THE POWER OF THEIR ECOSYSTEM

Last year, **Amazon announced** it would offer its sellers up to $1 million in credit lines via Goldman Sach's Marcus brand. The deal clearly benefits Amazon: it adds a new source of revenue with the fees from the Marcus credit lines, and its sellers get needed capital to continue selling on the platform. But the deal also benefits Goldman Sachs: with interest rates as high as 21%, fees for late payments, and fees for non-usage of the credit line, Goldman is likely to generate significant revenues. And with a near-zero cost of acquisition—the fee Amazon takes being the only real cost—and a low cost of loan processing, Goldman can live with a higher loss ratio than most banks are willing to. Lastly, Amazon won't have access to credit line usage and performance data since Goldman Sachs has no plan to share them with Amazon.

CO-DEVELOP NEW PRODUCTS

In June 2020, BNY Mellon partnered with Microsoft to create three new data and analytics solutions offerings on Azure: **Data Vault**, a cloud-based data and analytics platform that supports the rapid onboarding of data to provide greater flexibility and accelerate client innovation and discovery; **Distribution Analytics**, a predictive investment data solution, which helps asset managers better understand predictive market demand drivers for mutual funds and exchange traded funds in the U.S. and **ESG Data Analytics** aimed at supporting the customization of investment portfolios to preferred **Environmental, Social, and Governance (ESG)** factors. And such a collaboration did not prevent BNY Mellon to ink a **partnership** earlier this year with Google Cloud on technology that uses artificial intelligence and machine learning to predict when BNY Mellon's clients' U.S. Treasury transactions will fail to settle. According to BNY Mellon, "the model can predict around 40% of settlement failures for trades that are eligible to be settled on the Federal Reserve's FedWire Securities Service, with an accuracy of 90%".

INNOVATE AT SCALE

By collaborating with Big Tech, traditional organisation can accelerate their transition to a customer-centric digital delivery model. In the retail industry, this is the path Carrefour has decided to explore. Through its Data & AI Lab jointly launched with Google and Artefact in 2019, Carrefour has successfully advanced from "proof of concept" to "proof of scaling". Part of a wider collaboration with Google, which also includes Google Cloud Platform ("GCP"), G Google Workspace and Google shopping, the AI Lab enables to centralize data practices which were previously addressed in departmental silos and poorly suited to scalability largely due to a lack of test and learn methodology and insufficient expertise. Google supports the Lab in technology, methodology, training and business culture, and has enabled Carrefour to recruit and retain top talent in the AI field. Prior to inking such a partnership, though, Carrefour had invested significantly over several years to build a unique platform, which had made data accessible and exploitable. The availability of such a group-wide data platform was a key success factor of its partnership with Google and possibly a pre-requisite to their AI Lab foundation.

Due to their footprint, learning to work with BigTechs whilst respecting our standards on personal data privacy and security seems inevitable due to the size of their customer base. Many new entrants have already done so.

The right operating model will involve maintaining a balanced relationship with them and never lose sight of personal data security and privacy according to our role of trusted partners for clients. It's also a strategic imperative to keep developing new business models on Bank as Platform (Shine, Prisméa, Fiduceo offering aggregation...) to serve our customer base.

GAFAS' SUPERPOWERS

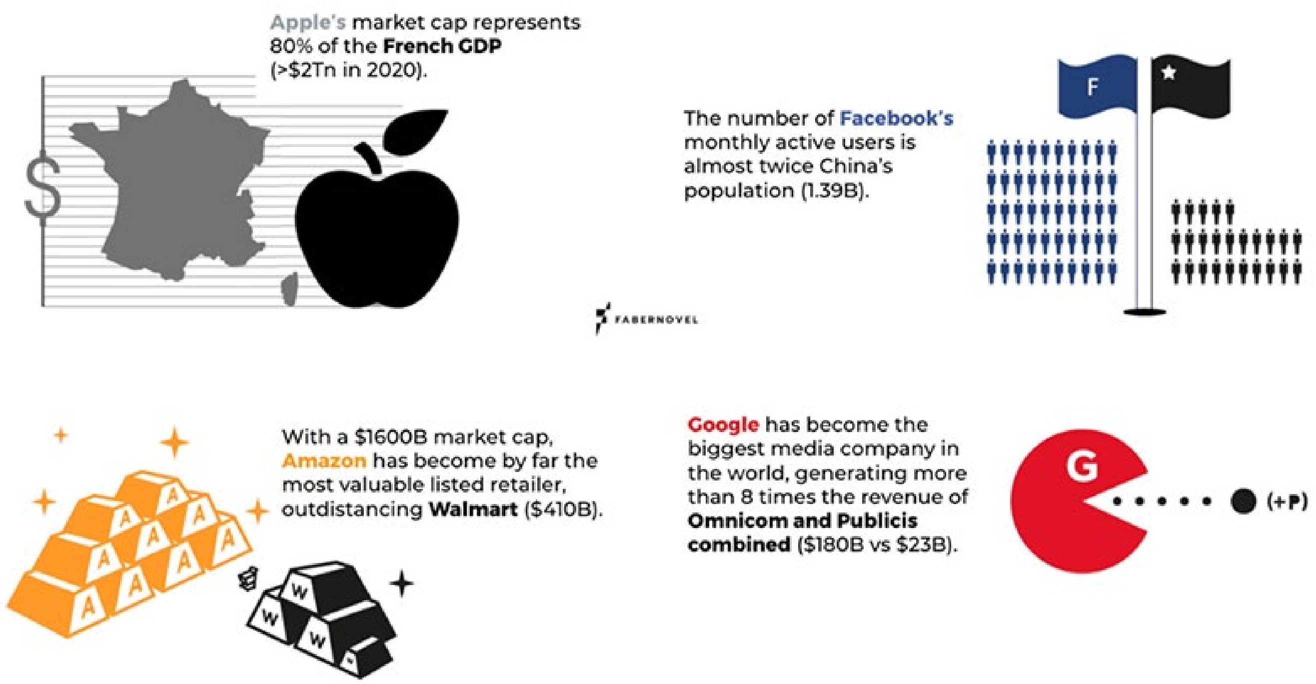
A POINT OF VIEW BY **GUILLAUME GOMBERT**, PROJECT DIRECTOR AT FABERNOVEL

Today, lower digital technology costs, de-regulation and mobile penetration in Western countries enable pure players to create customer experiences and walled gardens that compete with historical actors of the financial industry. Such pure players – and their superpowers – are not only a threat to banks, but also a great source of inspiration and business opportunities in terms of strategy and ecosystem growth. By switching from a product-centric approach to a client-centric one, the GAFA have ushered in a new business paradigm and even set the rules of a new economy.

As a result, GAFA firms have not stayed mere platforms but become gatekeepers, ruling over data and access to captive digital audiences. In 2020, this "monopoly by design" structure and asset light model made them clear winners of the COVID crisis. GAFA had $228.4 billion in total revenue in the last 2 quarters alone, showing a never-seen-before resilience.

> **"By switching from a product-centric approach to a client-centric one, the GAFA have ushered in a new business paradigm and even set the rules of a new economy."**
>
> Guillaume Gombert,
> Project Director at Fabernovel

GAFA ARE PLANET-SIZED (AS OF DEC. 2020)



DRAWING ON THESE STRENGTHS, THE GAFA HAVE MADE THEIR WAY INTO FINANCE

THE VALUE LOOP IS AT THE HEART OF THEIR MODELS

The main reason why GAFA are interested in financial services is their potential to fuel value loops. Before the rise of the Internet, value flowed along a **linear value chain: transforming raw materials into added value products.** In the new economy, the ecosystem is in the **shape of a loop that feeds and reinforces itself continuously.** Among a myriad of other players, there is a platform acting as the ecosystem's engine to accelerate usage, data and money and to create virtuous circles.

GAFA HAVE NO MARKETS, ONLY 7 BILLION POTENTIAL CUSTOMERS

GAFA ALWAYS REINFORCE THEIR VALUE LOOPS VIA TWO STRATEGIES:

- **First,** they try to **capture as much of the share of usage as possible** by continuously adding services to their walled gardens. Day after day, they aggregate services, whether their own or others', with the sole objective of **attracting, engaging and monetising customers over time.** An example of this is Amazon Prime Video, about which Jeff Bezos famously declared: "We manage to monetize Prime in a very unusual way: when we win a Golden Globe, it helps us sell more shoes".

- **Second,** their ability to **collect, standardise and exploit large amounts of data to improve the relevancy of the integrated ecosystem.** A notable example is the Google user account, where information gathered from Gmail can be used to recommend products or services in Search results, or where Search data is sold to advertisers for better ad targeting.

In light of these strategies, **banking and financial services are particularly attractive to the GAFA.** The sector represents a treasure trove of **clients, a long-term relationship and high-value data.** Payment is also a lever of diversification for GAFA's digital ecosystems. Remember **Chinese super app WeChat:** users can access a store of 4M+ mini-programmes connected to WeChat Pay. In 2019 Tencent, its mother company, owned 40% of the mobile payment market share in China with 800M+ users and 1 billion daily transactions (vs. 10 billion for Apple Pay over the whole year!).

GAFA WANT TO HAVE THEIR SHARE OF THE "FINANCIAL" PIE

IN THE PAST 10 YEARS, THE **GAFA HAVE MADE A FORAY INTO FINANCIAL SERVICES**, EITHER BY FORGING PARTNERSHIPS, BUYING OR INVESTING IN COMPANIES, OR BY BUILDING THEIR OWN SERVICES:

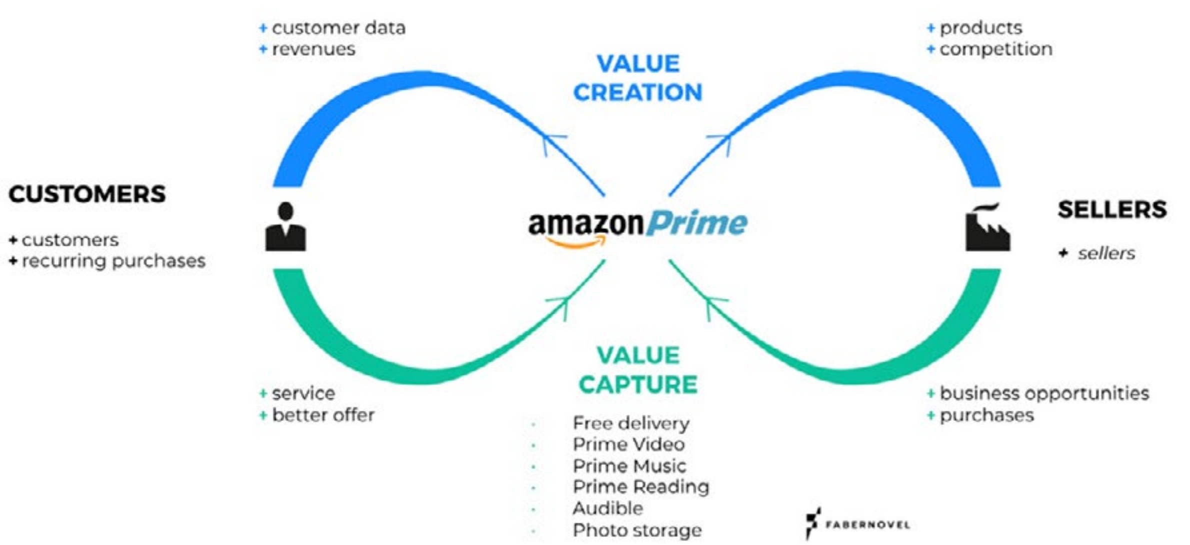
- **Partnerships:** After offering Apple Pay, Apple announced in 2019 the release of its own payment card with Goldman Sachs. It was the **first time that a GAFA had ventured into the field of payment methods**, and it further developed the intimacy the brand is forging with its customers; Moreover, this initiative gave Goldman Sachs access to **a large audience of new customers** since it had only been present on the retail banking market for a very short time through Marcus.
- **Buyouts:** In 2019 Facebook made its first acquisition in the blockchain space. The startup called **Chainspace was building a decentralized "smart contracts" system** that could facilitate payments and other services through blockchain technology.
- **Investments:** Google Ventures has been a **lead investor in several fintech startups,** participating in seed rounds to companies like Digit, Gusto, and Upstart. The VC's earlier fintech investments focused on payments and investment platforms, such Robinhood, CircleUp, and Stripe.
- **Internal development:** In September 2020, Amazon announced Amazon One, a **biometric device linked to a credit card to let users pay with their palms.** It could integrate within its digital and physical ecosystems, especially Amazon Go and Whole Foods stores. Amazon plans to commercialize the technology to third parties such as stadiums or office building.

UNBUNDLING, REBUNDLING: THREATS OR BUSINESS OPPORTUNITIES?

Admittedly, there is a **risk of unbundling** for traditional banks. Amazon, for example, is **integrating financial products into its offering**, making key investments in fintech or forging partnerships with established actors. This supports its core strategic goal: **increasing participation in the Amazon ecosystem.** In 2019, Amazon even started to branch out of its walled garden via a partnership with Worldpay. By integrating Amazon Pay into the Worldpay APIs, any merchant could **offer the former as a payment and shipping option** to its customers. The e-commerce giant is taking core components of banking and adapting them to serve merchants and consumers **within and outside of its ecosystem.**

This shows that **traditional financial actors can also benefit from GAFA's core competency of rebundling, or aggregating, services.** Indeed, if a bank is able to voluntarily open and close its services via APIs ("banking as a service") it can choose to integrate some of them within GAFA ecosystems. This way, they benefit from the latter's global user base, technology infrastructure and state-of-the-art user experience. The GAFA firm, in turn, **derives tremendous value from partnering with a solid, well-respected financial institution**, including the ability to issue credit.

AMAZON PRIME AND ITS 150M MEMBERS IS THE CORNERSTONE OF AMAZON'S MODEL



BANKS MUST DRAW INSPIRATION FROM THE GAFA AND DEVELOP THEIR OWN SUPERPOWERS

TOP SUPERPOWERS TO GET A SUPER POTENTIAL IN BUSINESS

For any large organization, the GAFA superpowers offer super potential to scale up its transformation:

— **The "free customer" and the "utility value model":** GAFA make no difference between a paying customer and a non-paying one. **Usage alone makes the customer**, not the transaction or the money they generate. Delivering sustainable customer value **prevails over short-term profitability.** As a result, GAFA think of themselves as problem-solvers: what matters to them is bringing solutions to **jobs-to-be-bone.**

FOR BANKS, it is particularly relevant to develop **new services' bundles even if they do not immediately generate a financial return.** By tweaking the way they are looking at customers, banks too can take a **"customer lifetime value" approach** rather than focus solely on quarterly financial performance.

— **The "infinite enterprise" and "pirate management":** GAFA leverage their powerful infrastructure, large user base and data to **innovate at scale.** They are also king in **business replication:** once a model is fully operational in a sector, GAFA can duplicate it in another vertical, thus **moving faster and at a lower cost than competitors thanks to microservices.** This has minimised the cost of innovation failures for GAFA and, as a consequence, has created **infinite growth potential.**

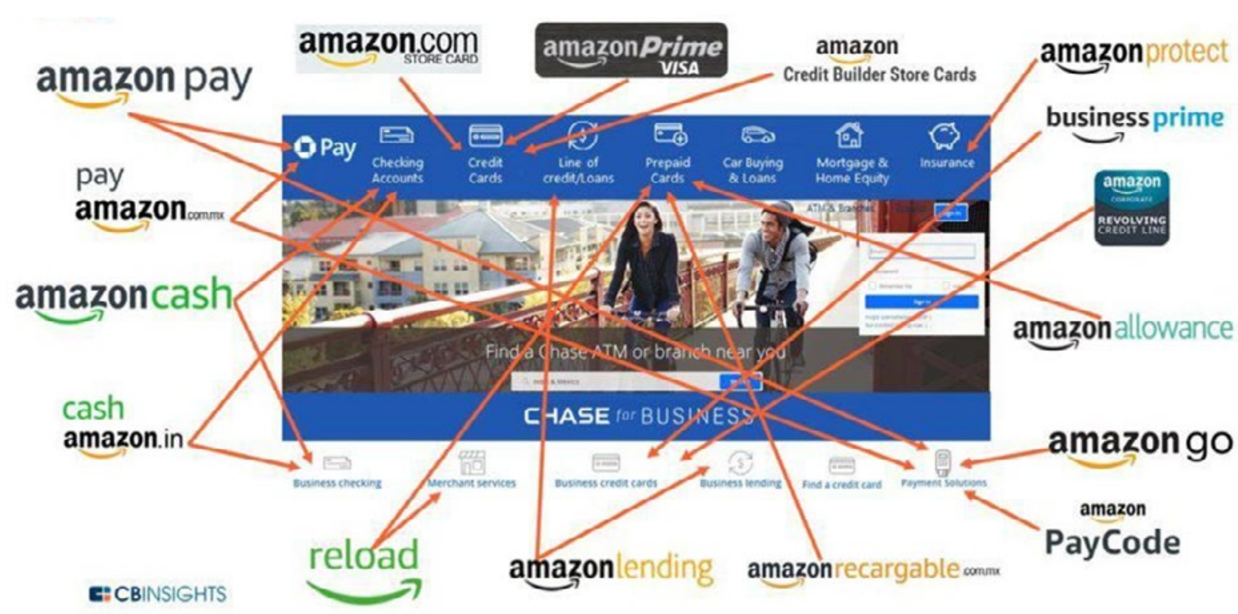
FOR BANKS, it entails revisiting **the architecture of their technological stack** and setting a **tech-driven culture.** To reach zero-marginal cost of their innovations, they would need to transform their **operational models**; render their services replicable, evolutive and truly interoperable to allow data and value flow within other digital ecosystems.

— **The "intimate" and "real-time" enterprise:** GAFA use customer knowledge and real-time data to **fine-tune the experiences** they deliver to each customer. Their competitive advantages are **customisation at scale** instant product-market fit that they leverage to improve products' value.

HISTORICAL BANKS CAN TAKE INSPIRATION from GAFA's ability to generate loyalty via **ultra-personalization and convenience** of the customer experience, as Neo banks do, to some extent. A strong data infrastructure and culture of real-time data analysis become essential.

The objective is not to become a copycat of GAFA. Every bank is defined by its values, its assets and its talents. First, it is important to **understand these superpowers, learn how to play with them** and, finally, to **revisit one's underlying operating model:** in other words, **think and behave like a GAFA.**

ALL THE WAYS AMAZON IS UNBUNDLING THE BANK



Source: "Everything You Need To Know About What Amazon Is Doing In Financial Services", CB Insights

2 APPROACHES TO SUCCEED IN THE DIGITAL ECONOMY

For legacy companies to thrive, **leveraging these superpowers leads to establishing two kinds of relationships** with tech giants:

— **The "plug in" strategy.** As we saw, plugging into a GAFA ecosystem can yield multiple benefits: reducing time to market, accessing a large client base and data, generating loyalty thanks to superior user experience... **The potential trade-off** here becomes letting the GAFA control the customer relationship, **exposing oneself to desintermediation.** In order to mitigate this risk, interoperability is key to develop new revenue streams and"**Banking as a service" capabilities** become the necessary conditions for independence.

— **The "alternative" strategy.** Their large and historical customer base is a key asset upon which banks can do better than digital native competitors. By **targeting a more specific consumer need and developing a dedicated solution to serve it,** competing firms can beat the GAFA at their own game. In 2019 for example, a consortium of India's eleven largest banks launched the first ever blockchain-linked loan system in the country. Instead of multiplying ties with fintechs to try and keep up with GAFA's pace, these **intra-sectoral alliances are able to create competitive technological infrastructures.** Such synergies are only possible if the involved players agree to **open their assets and share value.**

In the end, the first key challenge is to strike the **right balance in the relationship** with Big Tech which requires absolute clarity on the respective contributions of both parties. Find the right partner to co-build, co-brand and co-distribute products and set the conditions to maximize shared value.

FABERNOVEL

A FEW WORDS ABOUT FABERNOVEL

Since 2006, Fabernovel has been carrying out the GAFAnomics public studies to contribute to the readability and accessibility of the digital revolution and the major transformations in the economy. They are an opportunity for all to explore subjects of innovation, to gain a better understanding of the digital world and to develop analytical frameworks on the successful recipes of the platforms, unicorns and American and Chinese tech giants. These studies help to understand all the competitive dynamics of this new economy, its performance factors and its development strategy. Discover their latest book, comprehensively deciphering the GAFA model (in French): *GAFANOMICS : Comprendre les superpouvoirs des GAFA pour jouer à armes égales,* François Druel, Guillaume Gombert, Collection GAFAnomics, Éditions Eyrolles.

#2

E-COMMERCE REVOLUTION: NEW PAYMENTS MODELS, PLATFORMS AT SCALE & CHINESE E-COMMERCE PLAYERS

PUBLISHED ON 24 MARCH 2021

"BUY NOW, PAY LATER" MODELS SCALING AT HUGE PACE IN E-COMMERCE

BY **MICHEL BILLON**, MANAGING DIRECTOR HANSEATIC BANK

"Without asking customers for any additional information, BNPL offers a smooth and painless payment experience."

Michel Billon,
Managing Director
Hanseatic Bank

"The competition in e-commerce is getting fiercer by the day". The COVID 19 pandemic has significantly increased the traffic and turnover of online shops, thus driving traditional stores currently suffering from lockdown constraints to develop so-called click and collect processes. Especially in a digital shop, where switching to another one is easy, a perfect purchase experience is key in order to ensure customer satisfaction and loyalty. Looking for and buying something online is fun for most, but the customer journey often ends abruptly when it reaches the payment process. This is where several Fintech have decided to cure customers' pain points, focusing on a so-called "buy now, pay later" (BNPL) value proposition.

Customers can first receive the goods and then think about how to repay later, for instance by credit card, transfer or in monthly installments. Studies have shown that the young generation, and especially millennials, prefer to defer their payments.

An e-merchant can either set up a BNPL model on his own or have help from a provider, who either operates in the background, simply providing the software, but without building their own brand and customer base (like **Ratepay** or **Afterpay**), or one who operates in their own brand and covers the whole value chain (like **Klarna** or **PayPal**).

In this last case, surely being the most powerful one, providers can ensure a very easy and comfortable customer experience when it comes to payment, as it is fully integrated into the purchase process and supported by a strong digital relationship management and mobile applications. Offering a full range of payment means, BNPL providers are able to catch qualified transaction and risk data from customers, which can afterwards be used to expand to retail banking offers like deposit, current account or loan. **With a deep understanding of customer payment flows, it is easy to imagine the potential to extend up the value chain for such players when the financing side of the merchants is also considered.** Contrary to many neo banks, BNPL providers have already demonstrated that their models are extremely profitable, earning fees from merchants and at the same time interest and fees from customers.

As the partner of **Otto.de** – the main subsidiary of our minority shareholder **Otto Group and the second biggest marketplace in Germany with almost 4 billion € turnover in 2020** - we at Hanseatic Bank have been a part of the value chain for several decades. Long ago, we decided not to build up our own payment process solution due to the huge investment that would have been necessary and because Otto.de did not want to give up its strong customer relationship. Instead, we developed other consumer credit activities and remained focused on our key area of expertise as a specialized bank, refinancing the outstanding loans generated by the BNPL activities of some of Otto Group's subsidiaries (1,7 billion € end of 2020).

With the development of Otto.de into a platform model, they intend to provide merchants not only with the platform itself to sell goods but also with payment services through a newly founded payment service company. This payment company will provide Otto's usual BNPL product – invoice or instalment purchases – with a very convenient and immediate process. In order to address the increasing need for refinancing, Hanseatic Bank is currently extending its capabilities and by doing so will very soon be able to enter into new partnerships outside of the Otto Group, for instance with payment service providers like Unzer or other e-merchants.

In a nutshell, BNPL providers, and more generally payment providers, have taken strong positions within e-commerce business, often on the back of traditional banks. They moved quickly and invested immensely in digital solutions with the ambition of solving pain points of customers and merchants alike. They are gradually come into our traditional playing fields like deposit business or consumer loans. Re-entering this market today would be at high cost, but there are also some other options to be considered, such as focusing on profitable white spots or bringing a differentiating value proposition to the merchants (like purchase accounts branded by the merchant or financing on credit card).

THE PLATFORM REVOLUTION IS NOW

BY **PHILIPPE CORROT**, CEO & FOUNDER OF MIRAKL

"The EMI is the industry's largest compendium of third-party marketplace insights, representing 60 global retailer marketplaces offering over 60 million products across more than 50,000 sellers."

Philippe Corrot,
CEO & Founder of Mirakl

Incumbents across B2B sectors aren't waiting for digital natives to disrupt them. Powered by our best-in-class marketplace platform and ecosystem, many B2B businesses are already leveraging the platform model to become digital leaders.

2020 saw a major eCommerce boom in retail, in part due to COVID restrictions and changing consumer habits. Companies across all industries have accelerated their digital transformations and moved to adopt the platform business model. In France only ecommerce penetration in 2020 went up to almost 14% up from 9.8% in 2019. During that same time Europe's ecommerce turnover continues to grow at a rate of more than 12% and is likely to be even higher than projected.

Amidst an unprecedented acceleration of digital transformation, enterprise marketplace growth far outpaced the growth rate of traditional eCommerce models. The Enterprise Marketplace Index (EMI), launched by Mirakl in March 2021, reveals that enterprise marketplaces grew by 81% year-over-year, more than double the rate of overall eCommerce (40%).

2020 is also the year Mirakl became a unicorn. We are proud to support over 300 retailers, manufacturers, and wholesalers across the globe to transform their business model through digital marketplaces, built on our sold expertise, best-in-class technology and a unique ecosystem of marketplace operators, sellers, and partners.

THE PLATFORM REVOLUTION BEYOND RETAIL

The marketplace model is accelerating and new B2B marketplaces are springing up across industries with complexity in width (scope of product offering, integration of services) and depth (increase in price range offering, granularity of SKUs available). The objective, for now, is not only to increase sales and provide a new user experience to purchasers, but also to decrease the cost to sell and operate an eCommerce platform.

A marketplace operator's costs for inventory and warehousing are significantly reduced if products are stocked and sold by third-party sellers. This revolution started in retail and now extends to manufacturing, grocery, healthcare, agriculture. In B2B alone, Mirakl has launched new marketplaces with ABB, Airbus Helicopters, Maykers part of Kramp Group, Thales, and Z-Tech (part of ABInBev). Maturity levels, however, differ significantly across regions and industries.

WHY ARE MARKETPLACES SO IMPORTANT TO B2B ECOMMERCE SUCCESS?

When B2B businesses launch online marketplaces, they can scale eCommerce faster and more efficiently, without taking on the cost and risk associated with the conventional eCommerce model. And unlike first-party eCommerce, the marketplace model supports all the players in the B2B value chain. Manufacturers are helping their distributors digitize by onboarding them as sellers on their marketplace. Other use cases include marketplaces as a way of digitizing procurement. Procurement platforms offer a number of critical advantages over classic procurement channels, such as lower transaction costs, widespread acceptance by buyers, competitive pricing and an automatically expanding portfolio of products.

For example, Mirakl has enabled Accor group to launch such a procurement platform known as Astore, a marketplace designed to give their hotel ecosystems more choices to procure food, decoration and bedding to name a few categories. This particular use case extends to all industries with Amazon Business consistently extending into new features and services.

THE PLATFORM OPPORTUNITY FOR BANKING

There is an obvious role in the platform economy for the banking industry through payments on online marketplaces but in a market where broader offers are required to build loyalty with rising customer expectations, the platform model solves the restrictions faced by banks looking to develop non-financial services. With the new European Digital Markets Act attempting to level the playing field with new digital natives the platform model is a unique opportunity for banks to venture into activities not requiring deposit taking or financial intermediation.

INTEGRATION OF FINANCIAL SERVICES BY CHINESE E-COMMERCE PLAYERS

BY **ADN CHINA CHAPTER – SG CHINA**

For China traditional banks, the risk for a banking disintermediation because of the predominant role and importance of big ecommerce platforms in day to day life is real. For sure, 2020 has been a tremendous year for China e-commerce actors. The Covid-19 pandemic has obviously accelerated the digitalization of the Chinese society, driving a sustainable increase of big tech revenues and allowing them to play a key role in the recovery of the national economy. But sky is the limit, and the giants are now looking toward the banking industry in order to support their customers from end to end of their shopping experience.

CHINESE E-COMMERCE PLATFORMS STRATEGIES IN APPLYING FOR FINANCE/BANKING LICENSES

Getting a Chinese banking license is a particularly complex process for non-banking companies: heavily regulated, the banking industry is also under a high scrutiny from Chinese regulators trying to find the perfect balance between supporting this fast-growing activity and preventing the risk of financial frauds and shadow-finance.

However, this do not damper on the enthusiasm of China e-commerce actors, with several of them having received this precious authorization in recent months. Traditional BATJ (Baidu, Alibaba, Tencent, JD.com equivalent to US GAFA) have already cumulated more than 40 financial licenses through their different companies and participations, and other giant e-commerce platforms are also moving forward.

CTRIP AND TIKTOK ACQUISITIONS OF CHINESE PAYMENT LICENSES

Online travel booker Trip.com (400 million users, 43% of China online travel market) disclosed in end 2020 owning its first payment license via the acquisition of a fintech vehicle (Shanghai Oriental Huirong) previously owned by Shanghai government. By doing so, Trip.com hopes to expend its business ecosystem, offering to its huge base of customers an integrated business chain all along the customer journey of online travel booking.

It will also give trip.com more independence from WeChat Pay or Alipay online payment systems. Last but not least, Trip.com will be fully compliant and avoid potential regulatory risks (especially when doing online payment clearing and settlement).

A similar move was also done by TikTok's parent company ByteDance, by obtaining a domestic online payment license via the acquisition of the parent company of third-party payment service UIPay. This aims at helping its Toutiao news-sharing platform (272 million monthly users) to offer micro-loan, insurance and payment services to its customers in a near future.

MEITUAN-DIANPING APPLYING TO CHINESE BANKING LICENSE

Meituan-Dianping (shopping, delivery and ride-hailing platform, 448 million annual users, 6 million merchants, 40 million deliveries per day) is China's latest internet giant to receive a private banking license in a move by Chinese regulator to open-up the financial sector dominated by big state-owned banks. By doing so, Chinese regulators aim both at shaking traditional banks with more competition and fighting the shadow banking, leveraging on innovation, digital expertise and deep customer understanding from the BATJ ecosystem.

For the e-commerce giants, this is also a way to extend their offers with more integrated financial services, targeting their huge base of customers (several hundred million each) and exploring new growth levers.

Meituan-Dianping, for instance, has integrated in its application a line of credit feature called "Yuefu (月付)," enabling its users to order now and pay later. Yuefu allows up to 38 days of interest-free loans of up to 1,000 RMB in credit line for purchases made within Meituan's ecosystem, improving the number and the amount of food orders done on the platform. Moreover, Meituan has integrated its own online payment system to potentially supersede WeChat and Alipay in the future.

But **Meituan** could push even further, by providing credit facilities for more expensive products sold on the platform, such as hotel and flight bookings, to its best customers. It could also target the other side of its business ecosystem, by offering new financial services to merchants selling through the application. Again, SME loans or insurances could help Meituan in finding new growth levers, securing vendors and customers loyalty in the long term.

ADN CHINA CHAPTER

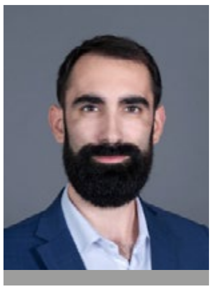
Hugues de la Marnierre,
SG China CEO
Sponsor of the ADN China Chapter

Socrate LAO,
SG China COO
Sponsor of the ADN China Chapter

Garry CHAN,
SG China CIO
Lead of the SG market, data and digitalization streams for ADN China Chapter

Minghua DAI,
SG China GTS Head
Lead of the Digitalisation streams for ADN China Chapter

Freda WANG,
SG China TPO
Project Manager, lead of the Innovation stream for ADN China Chapter



Ronan VUILLEMARD,
SG China TPO
Project Manager, lead of the Innovation stream for ADN China Chapter

#3

CRYPTO-ASSETS SPECIAL EDITION

PUBLISHED ON 30 APRIL 2021

PUBLIC INITIATIVE IN EUROPE: STABLECOINS AND CENTRAL BANK DIGITAL CURRENCIES

BY **ISABELLE MARTZ**, DEPUTY HEAD OF FRENCH RETAIL PAYMENTS, SOCIETE GENERALE

DEFINITION OF STABLECOINS?

Stablecoins are cryptocurrencies – based on a blockchain – whose value is pegged more generally to a fiat money (of a basket of fiat moneys) or to an asset (such as metals for instance). Their value is then stable compared to the highly speculative cryptocurrencies such as bitcoin.

STABLECOINS, A THREAT?

Facebook's statement to create the Libra (now Diem) was a wake-up call for Central Banks. The ability, by a private actor, to issue a currency and set-up a supra-national payment system was shaking the ghost of the GAFA supra-power, their ability to weaken the monetary politics tools and the worldwide financial order. The European Commission is fighting back with its new regulation called MICA (regulation on Markets In Crypto Assets).

A Central Bank Digital Currency (CBDC) – be it based on a blockchain or not – is a response to the threat from such big private actors or from other Central Banks with international influence (US or China for instance). But a CBDC issued for retail and corporate actors (called 'retail CBDC' by difference with a CBDC issued for financial institutions called 'wholesale CBDC') could as well threaten the financial system, which seems paradoxical! A retail CBDC could indeed compete with money in commercial banks (the money you have in your personal accounts), then impact commercial banks deposits and jeopardize their ability to finance the economy. A solution could be to limit deposits and usage of retail CBDC.

OR AN OPPORTUNITY?

The need of a retail CBDC can be questioned, as no clear use cases justify its creation above the need of sovereignty of course. Existing systems of payment are efficient, with high volumes processed in real time, 24 hours a day, and business models for intermediaries (banks and payment solutions providers). But the real opportunity of crypto currencies is offered by the blockchain technology capabilities. The most promising feature, that does not exist natively in traditional currencies or means of payment, is its programmability. A transaction in crypto currency is a line of code in the blockchain: this code can encompass conditions for instance on the payer and the payee (e.g. persons eligible to a public subsidy) or go look for conditions encoded in a 'smart contract'. It opens opportunities for fidelity points, pay as you used, machine to machine transactions, directed payments, etc. Economic impacts are massive, though development of such algorithms is still complex and not matured (questions of responsibility and irrevocability for instance).

SO, WHAT'S NEXT?

The public consultation about a **retail CBDC by the ECB seems quite positive**, though a technical solution ensuring privacy, security, inclusivity, with cross-border capabilities is a technical and regulatory challenge! Experimentations should be the next steps in months to come. On the private side, the field of opportunities and uses cases is wide and open: and SG ready to play the game!

PUBLIC INITIATIVE IN ASIA: SINGAPORE PROJECT UBIN

BY **NICOLAS STUM**, CHIEF OPERATING OFFICER,
SOUTH ASIA AND APAC SPONSOR OF ADN (ASIA DIGITAL NETWORK), SOCIETE GENERALE

"To the young and to the not so old, I say, look at that horizon, follow that rainbow, go ride it" Lee Kuan Yew, Singapore founding Prime Minister.

How to become a Smart Financial Centre? This is the challenge Singapore took up in 2016 when the MAS (Monetary authority of Singapore) launched "Project UBIN" with an ambitious goal: develop public-private initiatives to explore the use of DLT for clearing and settlement of payments and securities Project UBIN (granite island in Malay) is a multi-year multi-phase project. Each phase explored DLT-driven improvements to the clearing and settlement process. **Phase 1 and 2** focused on the building of technology capabilities including the setup of a tokenized Singapore Dollar and the testing of decentralized inter-bank payment and settlements. **Phase 3 and 4** focused on network interoperability (i.e. Delivery versus Payment, Cross Border Settlements) and finally, **phase 5** on the viability of use cases and validation of commercial values across the ecosystem. This last phase was conducted using production-grade frameworks, across 3 finance domains: capital markets (equities, bonds) lending (loans, trade finance) and insurance (health, motor).

WHAT IS NEXT?

In their 6th and final report, the "UBIN" sponsors quote "the next leap will be in implementing live commercial solutions to solve real world challenges… this sixth report is intended to be a springboard for this next leap."

Since 2019, new tests are being conducted by GLCs (government linked companies) in the field of digital bonds (Olam issuance and recently Singtel) in collaboration with the SGX (Singapore Stock Exchange). DBS bank has also displayed its ambitions in crypto-assets by creating a digital exchange.

HOW COULD SINGAPORE PLAY A ROLE IN THIS NEW DISTRIBUTED LEDGER TECHNOLOGY ERA?

Precisely because it is Singapore; a neutral, business-friendly territory but with a strong regulatory framework and first-class infrastructure. Over the past years, the city-state has welcomed FinTech and Tech Fin of all nationalities, including GAFAMs and BATXs, to build a smart financial ecosystem, of which the DLT cluster is a piece.

BUT WHERE CAN THE POTENTIAL LIE IN A COUNTRY OF 6 MILLION PEOPLE, FURTHERMORE OVERBANKED?

Perhaps Singapore sees an opportunity in the development of ideas incubated by these smart finance players, who by creating this new DLT ecosystem, will attract capital to the island or export their solutions to tackle the 3 main challenges facing the neighboring countries: financial exclusion, inefficiencies in the banking sector and a young generation going beyond the usual financial uses. Keep in mind that the population of Indonesia, the Philippines and Vietnam alone is close to 470 million, of which 35% are 20 years old or less (compared to 750 million Europeans and 335 million US Americans). In these emerging markets, internet penetration exceeds 60% and mobile social usage nears around 55%.

Find out more:

- Project UBIN moves closer to commercialization
- Marketnode
- DBS creates its digital exchange

PRIVATE INITIATIVE IN FRANCE: LUGH – THE FIRST FRENCH STABLECOIN

BY **OLIVIER OU RAMDANE**, CO-FOUNDER OF LUGH

WHAT IS THE LUGH?

The Lugh (EUR-L) is the first fully transparent stablecoin pegged to the Euro, built on Tezos blockchain technology. To ensure the stability of the Lugh, for each stablecoin issued, one Euro is saved to a dedicated bank account held by Societe Generale. The Lugh is an asset designed for today's world, offering the benefits of digital assets and blockchain technology, combined with the stability of one of the most traded currencies in the world.

WHO IS BEHIND THE PROJECT?

LUGH, a company set up expressly to operate the Lugh, lies at the centre of an ecosystem of top-tier players:

- in technology: Nomadic Labs, R&D team promoting the Tezos protocol and start-up SCEME;
- Coinhouse, leader in crypto-asset investments for retail and corporate clients in France, in charge of distributing the EUR-L (another name for the Lugh);
- PwC France and Maghreb, responsible for independently certifying the number of EUR-L in circulation each month, and the balance of the reserve bank account;
- and distribution group Casino, securing a position on the frontier of the payment instruments of tomorrow.

HOW IS IT USED?

Initially, the Lugh stablecoin will be offered to Coinhouse clients to facilitate cryptocurrency transactions for retail or professional investors seeking protection against the risk associated with the volatility of these markets, by instantly and inexpensively falling back on a stablecoin.

Our objective is thus to promote the massive adoption of the Lugh by crypto-traders, by diversifying trading platforms offering the EUR-L.

In the longer term, we consider that the Lugh can be used by any individual as a means of payment natively integrating multi-partner loyalty programs. With this in mind, Lugh wishes to set up a consortium of B2C players (commerce, tourism, entertainment, etc.), of which Groupe Casino is the first member.

WHAT IS THE TIMING/WHAT'S NEXT?

In the coming months , we aim to make the Lugh the benchmark € stablecoin used in the crypto-asset finance industry, while federating an ecosystem of partners around an innovative payment instrument and new everyday financial services based on blockchain technology that may arise in 12 or 24 months

To learn more, watch the LinkedIn Live talk between Claire Calmejane, CIO of Societe Generale and Cyril Bourgeois, CDO of Casino Group.

SOCIETE GENERALE ENTERPRISE OFFERS AND RECENT DEALS BY SOCIETE GENERALE FORGE

Societe Generale FORGE offers access to **digital assets** at the best banking standards: **structuring and issuance, secondary market** and **custody.**

Societe Generale FORGE is a pioneer in generating **Security Tokens,** providing many benefits for issuers and investors:

- transaction speed;
- lower costs for market access and reduction in the number of intermediaries;
- automation of events related to financial securities;
- transaction transparency;
- development of new hybrid instruments (Utility Tokens) authorized by the PACTE law in France.

Most recent deals:

By issuing the first structured product as a security token on a public blockchain, Societe Generale - FORGE's innovative operating model completes a new step in its development: enabling Security Tokens to be directly integrated to conventional banking systems interfaced with SWIFT format.

Watch the replay of our live event with Jean-Marc Stenger, CEO of Societe Generale FORGE who talks about the EIB 2YR Inaugural Euro Digital Bond.

Find all the news about Societe Generale Ventures's portfolio at ventures.societegenerale.com

#4

SOVEREIGNTY AND DATA PRIVACY

PUBLISHED ON 4 JUNE 2021

EUROPEAN REGULATORY FRAMEWORK ON DIGITAL TECHNOLOGY AND EUROPEAN SOVEREIGNTY: WHAT PERSPECTIVES FOR DATA SHARING, CLOUD SERVICES AND PLATFORMS?

BY **MARIANNE AUVRAY-MAGNIN**, HEAD OF RETAIL BANKING PUBLIC AFFAIRS, AND **MICHEL ZIX**, IP/IT & DATA HEAD OF LEGAL AT SOCIETE GENERALE

“Europe’s political will is clear. There are still many uncertainties about the extent and pace of the measures, especially as Europe’s financial resources remain limited.”

Marianne Auvray-Magnin,
Head of Retail Banking Public Affairs

Michel Zix,
IP/IT & Data Head of Legal
at Societe Generale

HOW IS THE BANK INDUSTRY CONSTRAINED BY THE EU REGULATORY FRAMEWORK?

Since 2016, The EU has gradually developed a regulatory framework on data and security:

- the Network and Information Security (NIS) directive on network and IS security in Europe (07/2016) has strengthened the cybersecurity of essential service providers, including banks;
- the EBA's guidelines and recommendations on cloud service providers (12/2017) require financial institutions to monitor their essential outsourced services, which restricts contracts between the bank and its suppliers and the bank's internal governance;
- the General Data Protection Regulation (GDPR) (04/2016) strongly regulates the sharing, use and transparency of the processing of personal data, in a context of increased customer awareness of data confidentiality; It includes non-European stakeholders.
- the Payment Services Directive (PSD2) (entry into force in 2018) imposes obligations to access information on customer payment accounts, on any service provider who wishes to aggregate information and / or initiate payment services, while strengthening security requirements.

HOW IS THIS REGULATORY FRAMEWORK STRUCTURED WITH INTERNATIONAL REGULATIONS?

The regulatory framework of the Network and Informations Security (NIS) directive on service operators is equivalent to that of China, the United States or Russia. Essential service providers, such as the Cloud, are also regulated in most countries, sometimes in stronger manner (US, Russia, China) compared to the European framework, and often with national sovereignty objectives, in Africa, for example, in response to the extraterritorial effects of US law.

Rules on compliance with banking secrecy may also strengthen the confidentiality obligation of certain countries. The EU is ahead on personal data protection , and the GDPR is becoming a global benchmark for many countries. A judgment of the Court of Justice of the EU (Schrems II, 07/2020) strengthens the requirements for transferring personal data outside the EU: an application to the letter would block the transfer of data in non-equivalent jurisdictions or remote access from these countries. The European authorities are working to clarify the modalities of interactions with non-European stakeholders.

HOW DOES THE EU WANT TO COMPLEMENT THIS REGULATORY FRAMEWORK?

The regulatory agenda is dense. The COVID crisis and the Libra initiative have shown the importance of digitization in the functioning of the economy and highlighted the issues of EU sovereignty, with a strong political will to favor European stakeholders. The EU's digital future is one of the priorities of the new European Commission, with an investment plan aimed at developing European strategic capabilities and adapting regulations: the topics of cybersecurity, development of European infrastructure, data sharing and platform regulation are at the top of the agenda.

In addition to the cross-sectoral initiatives led by the DG CNECT, a particular focus is on finance, via fintech action plans led by the DG FISMA, with four main topics:

- strengthen security, including cyber security, and supervision of major suppliers of the financial sector in the EU with two initiatives:
  - **DORA**: which aims to harmonize and strengthen the IT operational resilience of the European financial sector (risk of failure or disruption of the information system, cyber threats, IT supplier risk including supplier concentration risk, etc.).
  - **NIS 2**: which aims to update the EU's cybersecurity strategy by strengthening surveillance measures, as well as administrative sanctions in the event of breach of obligations;
- promote the use of the Cloud (development of Gaia-X in partnership with private stakeholders to enable the development of a competitive European infrastructure);
- manage the use of AI for the riskiest sectors (a regulatory initiative);
- rrebalance the power between platforms and their users (2 draft regulations: Digital Services Act -DSA and Digital Market Act – DMA). These reforms could ultimately inspire a deepening of the GDPR or more targeted texts to come on data and open finance.

Europe's political will is clear. There remain many uncertainties about the extent and pace of the measures, especially as Europe's financial resources remain limited.

A CLIMATE OF ACCELERATION. WHAT POSITION FOR SOCIETE GENERALE VIS-À-VIS THE CLOUD IN THE YEARS TO COME

BY **GILLES BABINET**, CO-CHAIRMAN CONSEIL NATIONAL DU NUMÉRIQUE (CNNUM)

Everyone knows that the technological revolution is in full swing and that the digital transformation challenges within corporates are becoming increasingly strategic.

Given this situation, the Cloud strategy to be adopted by European corporates, in an environment where changes are happening quickly on several levels and with consequences, can have strong, if not vital, strategic implications for these companies.

This is an ongoing observation of DG Connect officials: the behaviour of these same corporates in Europe varies widely. While British, German, and Scandinavian corporates recognize that there may be an issue of sovereignty and autonomy with regard to hyperscalers[1], they believe that this is less important than the productivity gains potentially provided by these same platforms. This analysis is far from shared by French corporates as well as by French institutions and citizens[2].

Three concurrent factors appear likely to have a strong impact:

1. **the Schrems II decision,** which invalidated the "Privacy Shield", the bilateral data transfer agreement between the EU and the US, which lawyers generally see as a high-magnitude legal earthquake with aftershocks felt on a daily basis[3].
2. regulatory developments concerning the GAFAM and/or Hyperscalers, in keeping with Schrems II, but taking into account aspects similar to antitrust (DSA, DMA, and possibly one day DGA, Data governance Act
3. developments in the commercial and technological offering of hyperscalers, who want to find solutions to limit the impact of the **CLOUD Act** while increasing the security of their offerings, as well as developments in the European offering.

As noted in the introduction, each of these three factors is evolving dramatically and can have a significant impact.

In theory, the constraints brought about by the **CLOUD Act** would prompt us to do without all the SaaS offerings from across the Atlantic. However, we must be pragmatic: American hyperscalers offers are essential because of their level of investment and innovation in particular those of GCP, AWS and Azure. The framework for working with them must therefore be developed.

The rapid evolution of very different types of factors makes it difficult to establish a definitive status with regard to the cloud strategy of a large European company:

"US players are essential because of their level of investment and innovation. The framework for working with them must therefore be developed."

Gilles Babinet,
Co-chairman Conseil National du Numérique (CNNUM)

- Antitrust forces, which could reshuffle the cards and eliminate some of the potential concerns of large customers of hyperscalers by stepping up competition and reducing anti-competitive practices.
- Regulatory forces (including the DMA), which could go in a similar direction.
- Other issues, such as the Schrems II decision, instead tend to reduce competitive pressure to the detriment of the quality of the European offering.
- The vast number of innovation initiatives, with the rapid evolution of cloud solution architectures, creating opportunities – but also threats – that need to be understood and anticipated.

The regulations (negotiation of a Privacy Shield V2, if it ever comes into being, or the DMA) and the commercial requirements or technological innovations are tending towards reducing the disadvantages associated with using a solution and the technological dependencies that can arise from using hyperscalers. These disadvantages are likely to continue for years to come. However, even if Europe, beyond its awareness of the importance of digital sovereignty, manages to free itself from American technological solutions (and Chinese for hardware), European players will probably take time to catch up. the delay.

In addition, one of the segments in which hyperscalers are concentrating their investments is artificial intelligence, an area of such importance that it is difficult not to seek to work with the best.

1 "Hyperscaler" generally refers to companies that offer large-scale cloud, network, and Internet services at their most basic level by providing organisations with access to the infrastructure via an IaaS model. Examples of current hyperscalers include not only Google, Microsoft, Facebook, Alibaba, and Amazon, but also Tencent, IBM, and Oracle. These large companies are generally subject to European regulations and in particular the Digital Market Act.

2 Usine Nouvelle - Faut-il s'inquiéter qu'Amazon héberge les données de Bpifrance sur les PGE ? [Should we be worried that Amazon is hosting Bpifrance's data on government-backed loans?] - Feb 2021.

3 Théodore Christakis - Squaring the Circle? International Surveillance, Underwater Cables and EU-US Adequacy Negotiations (Part 1) - 12 April 2021.

WHAT IMPACT ON OUR BANKING MODELS?

BY **CLAIRE CALMEJANE**, CHIEF INNOVATION OFFICER, SOCIETE GENERALE

NEW REQUIREMENTS BUT IN WHAT CONTEXT?

The banking industry is used to transforming itself with technological breakthroughs. We are in a new phase, started ten years ago with the emergence of new business models embodied by Revolut, Lydia or even Qonto, after the phases of technological infrastructure transformation, the arrival of the first computers, then that of the web and the creation of our digital subsidiary Boursorama. These new players are aimed at customers who are looking for a real digital experience, without neglecting their historic banks. The next wave that is emerging is that of the use of data for purposes that are not exclusively financial: open banking will then make it possible to go further than traditional financial products and that is why the taking of Our government's awareness of data sovereignty will modify our strategies in this area but also confirm some of them.

DIGITAL AND TRUST, THE BEST WAYS TO STRENGTHEN THE RELATIONSHIP BETWEEN A BRAND AND ITS CUSTOMERS

The core business of a bank is trust and risk management. When our customers trust us with their savings, their safety isn't even a concern for them. This trust, which we have been able to build and maintain for 150 years, is an invaluable asset for us. We design all our products with the obsession with security (cyber, fraud and payment management, etc.) and compliance with all the regulations that organize data protection such as the GDPR.

Personal data belongs to our customers and we never use it without their consent. It's obvious. Likewise, we have chosen to develop our own proprietary cloud which allows us to control the use and storage of our data. This also allows us to control the infrastructure and therefore security. **We are among the first to have made this ambitious choice in France**, relying on teams of quality in-house engineers, however these technologies continue to develop rapidly. Basically, trust is our main asset when dealing with players who have a business model based on the use of personal data. It is also an asset compared to Fintech, which are watched with more attention by regulators, following certain scandals such as Wirecard and an opportunity for collaboration.

THE NEED TO DEVELOP CLOUD PARTNERSHIPS WITH BIG TECH

It is obvious today that the collaboration with the American BIG TECH on the cloud must be done under the best conditions by creating new devices allowing to meet the new regulatory requirements and by clearly specifying the role of each partner.

> "Let's never forget our strengths: trust, expertise and risk management in platforms whose business model is centered on the exploitation of personal data."

Claire Calmejane,
Chief Innovation Officer,
Societe Generale

The recent partnership of Orange and Capgemini to create a hyperscale cloud company based on Microsoft technology shows the way forward. With the Confidence Cloud, France intends to define a framework that allows personal data to be protected and French companies to protect themselves from certain risks induced by extraterritorial laws. And we can expect in the coming years, a hardening of the conditions under which French companies will be able to purchase cloud services from foreignoperators.AnditisthesameatEuropeanlevel,newstandards will appear and we must unite to define them effectively.

We, as an international bank, we never forget what makes our strength - trust, expertise, and risk management – facing platforms that have a business model centered around the exploitation of data and in this demanding regulatory context but at the service of our customers. We have a clear ambition to implement our technological strategies and identify the best opportunities for collaboration with the best players in the market. And of course, we need the means.

https://medium.com/xangevc/noublions-jamais-nos-forces-la-confiance-l-expertise-et-la-gestion-des-risques-face-%C3%A0-des-59df8febd3e4

#5

CSR: IMPACT-BASED FINANCE, ESG DATA CHALLENGE AND INNOVATIVE SOLUTIONS

PUBLISHED ON 9 JULY 2021

IMPACT-BASED FINANCE : HOW TO TURN THE SDGS FUNDING GAP INTO ATTRACTIVE INVESTMENT OPPORTUNITIES

BY **MARIE-AIMÉE BOURY**,
HEAD OF IMPACT BASED FINANCE AT SOCIETE GENERALE CORPORATE AND INVESTMENT BANKING

“With trillions spent to keep the economy afloat during months of lock down, States and companies must – more than ever – optimize the use of their capital and “do more with less.”

Marie-Aimée Boury
Head of Impact Based Finance at Societe Generale Corporate and Investment Banking

As the clocks ticks towards 2030, current business and financing models fail to bridge the SDG annual funding gap of US$2.6 trillion, of which ca. 90% is in developing countries including 50% in Africa alone. To solve this collective challenge, Societe Generale is pioneering a disruptive approach to support new business models and digitaly-enabled financing solutions in order to accelerate the transition to an inclusive and low carbon economy.

This impact-based finance approach is grounded on the observation that the SDG funding gap is first and foremost and investment gap. There is no shortage of investors looking for impactful investments however bankable and scalable projects are difficult to originate in the amounts and at the pace needed to achieve the SDGs.

Indeed traditional business models do not work to deliver infrastructure and other affordable services needed in developing countries, and in some cases in developed countries as well. These projects often rely on payment risk from weaker counterparts such as Base Of the Pyramid ("BoP") end-users or public entities in low rated countries. They also often come as small size investments in geographically dispersed areas – although with a strong replication and scale up potential.

However, by focusing on positive impacts and working on maximizing and monetizing them – "doing more with less" - projects' bankability can be improved. Under this impact-based approach, impacts are put at the core of the strategic goals of these projects, on the grounds that sustainable profits and long-term value creation are derived from the ability to deliver positive impacts to all stakeholders and the environment.

For example, with a marginal increase in capital expenditures, an off-grid solar power mini-grid project could be "augmented" to bring increased or more reliable connectivity, which enables access to smart services and other advanced IoT technologies that can apply to agriculture, thereby increasing the largest source of revenue for most rural communities, or unlocks access to online education or telemedicine.

As highlighted above, impact-based business models take advantage of the fact that infrastructure, education, healthcare and economic development are intimately connected. The resulting enlarged client base, partnerships and diversification can materially reduce business and credit risk and improve access to funding.

Digitalization also plays an essential role in achieving this result. First, data can be collected to demonstrate a project's operational performance, payment track record as well as impacts anticipated and eventually achieved. Such data is key to "deconstruct" the risk misperception that many investors have when considering investing in developing countries and/or new business models. Second, digital tools and AI can be used to optimize processes at each step. For example, during the financing phase, it can be used to design the appropriate level of standardization in due diligence and credit analysis to facilitate scale up by aggregating transactions in portfolios and optimizing their composition. The ability to efficiently gather and analyze project and impact data is a key driver to successfully implement an impact-based approach.

With trillions spent to keep the economy afloat during months of lock down, States and companies must – more than ever – optimize the use of their capital and "do more with less". This is an obvious opportunity for all stakeholders to co-construct impact-based business models in order to respond to the world's climate, education and health challenges, using collective intelligence to achieve the SDGs by 2030.

https://www.unepfi.org/positive-impact/rethinking-impact/

THE GOLD RUSH OF NON-FINANCIAL DATA AND WHAT IT MEANS FOR FSI REPORTING

BY **LUBOMILA JORDANOVA**, CO-FOUNDER AND CEO OF PLAN A

> **"If data is the new gold, then FSI could well become both the repositories and the railways by which this new currency travels."**
>
> Lubomila Jordanova,
> co-founder and CEO of Plan A

On July, 22nd 2020, **Non-Financial Reporting (NFR)** took on an entirely new meaning. The introduction of the EU Taxonomy as a unifying piece of legislation for sustainable reporting has changed the perspective. This framework was developed and adopted by the European Union Commission to formalize and unify a common framework that would give businesses a net-positive (or net-negative) score on their contribution to sustainability. It is divided into six categories: Climate change mitigation, Climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control and protection and restoration of biodiversity and ecosystems. Each company will receive a score on each of these categories that aggregate into a global percentage score.

In other words, indicators such as carbon emissions, ESG score, water usage or biodiversity are joining the (already) long list of indicators financial institutions must report on. From a data collection perspective, this is a sizable challenge. The legislation has come into force almost a year ago. From a banker or an asset manager's point of view, it is an emergency. Technologies specializing in collecting this data for complex structures like asset portfolios are still rare. This is leading to a gold rush towards impact management solutions. Carbon and ESG accounting companies like Plan A are growing capabilities to dive deeper and deeper into non-financial data, or even using financial data to derive analytics on Environmental, Social and Governance dimensions of business. These tools need to cover essential challenges: data collection and centralization, accurate and rapid analysis, and recommendations to act for decarbonization. As a result, data that was once confined to the CSR department is transforming into valuable information used to steer business decisions.

Financial institutions are both on the frontline and in the deep end of this conversation. On the front line because of regulations like the EU Taxonomy in Europe or in the UK where "Non-financial information must be included in the Strategic Report" in order to "help companies identify sustainability risks and increase investor and consumer trust." Not only is non-financial reporting a mandatory hygiene requirement but they are also in full use for risk assessment, informing investment strategies and driving business decisions. FSI are equally instrumental in tracing emissions and collecting the data needed to accurately track and assign impact. In other words, Banks, asset managers, VCs and other funding institutions have both the requirement and the opportunity to become the centerpiece of impact data gathering and analysis. If data is the new gold, then FSI could well become both the repositories and the railways by which this new currency travels. As the saying goes, a craftsman is only as good as its tools. A signal for financial institutions to find the right support to hit the richest vein.

About the author: Lubomila Jordanova is the co-founder and CEO of Plan A, a Berlin-based startup developing an end-to-end platform that enables companies to measure, monitor and reduce their environmental footprint and improve their ESG performance. Société Générale is in POC with Plan A's carbon accounting measurement and reduction software.

RISK, RETURN, AND OUTCOME: CAN DIGITALIZATION SOLVE THE ESG DATA CHALLENGE?

BY **ISABELLE MILLAT**, HEAD OF SUSTAINABLE INVESTMENT SOLUTIONS AT SOCIETE GENERALE

"If you ask sustainable and responsible investors these days about the stuff their dreams – or nightmares – are made of, there's a good chance the "data" challenge will come up."

Isabelle MILLAT,
Head of Sustainable Investment Solutions at Societe Generale

Comprehensive, reliable, and comparable data on companies' Environmental, Social and Governance (ESG) performance is essential to inform sustainable and responsible investment decisions. And the need for data will only increase with mounting new ESG regulations mandating increased transparency on the sustainability credentials of investment portfolios and products. Yet, company disclosures of material ESG information is often patchy, especially in geographies where sustainable investing is still lagging, or for smaller firms with limited means to report. And large agencies' ESG assessments of businesses are generating mounting frustration: black-boxy, inconsistent, overpriced, static… ESG data bashing has become more fashionable than ESG itself!

Comprehensive, reliable, and comparable data on companies' Environmental, Social and Governance (ESG) performance is essential to inform sustainable and responsible investment decisions. And the need for data will only increase with mounting new ESG regulations mandating increased transparency on the sustainability credentials of investment portfolios and products.

Yet, company disclosures of material ESG information is often patchy, especially in geographies where sustainable investing is still lagging, or for smaller firms with limited means to report. And large agencies' ESG assessments of businesses are generating mounting frustration: black-boxy, inconsistent, overpriced, static… ESG data bashing has become more fashionable than ESG itself!

Naturally, combining buzzwords together, new entrants in the space claim that big data and artificial intelligence are the silver bullets to address ESG data shortcomings. By harnessing and processing massive amounts of information published by or on businesses, they want to offer more comprehensive, agile and pluralist assessments. Surely, innovation is welcome. Yet, its true value add will require more than a replacement of human analysts by processors.
First, the new model must tackle existing frustrations: transparency, open source software, and fair pricing will not be an option. But altering the model is just the first step. Altering the nature of the output could be the real game changer. Sustainable investors have for a long time looked at companies' management of environmental and social risks: robust internal ESG policies and processes limit risks or even benefit returns, hence they are relevant, or even material, to the traditional optimization of risk-adjusted return.

However, today's sustainable and responsible investors have added a third piece to the equation: they want to optimize portfolios' risk, return, and impact, or "outcome", on sustainable development goals. More than efforts, they want to see measurable results. Impact reporting is moving to the core of investment decisions and stewardship. And regulators globally, who are set to make sustainable finance the new financial normal, are further pushing in the same direction.

Providing comprehensive, reliable, and comparable data on companies' sustainable outcomes might prove an even greater challenge than assessing the ESG performance of their value chains. And, to steer clear from the inconsistency that's been criticized in the past, another challenge will be to report the data along common standards, such as the United Nations' 17 Sustainable Development Goals; or possibly the European taxonomy of sustainable activities, when it ends up encompassing social priorities, and not just the "green" ones. It's tempting for new entrants in the ESG data space to innovate with yet another impact taxonomy; but joining forces into coalitions will fight the market's fragmentation, while enhancing the much-needed transparency and comparability for investors. If new technologies can help overcome these challenges, then they will bring a transformative rather than incremental benefit in sustainable investors' quest for risk, return, and outcome.

SUSTAINABLE FINANCE AS A SOURCE OF INNOVATION!

BY **CLAIRE DOUCHY**, HEAD OF RESPONSIBLE PROJECTS AT SOCIETE GENERALE PRIVATE BANKING FRANCE

The European Green Deal is one of the most ambitious programs in the world for a more sustainable economy compatible with a scenario of drastically limiting global warming. And the major sustainable finance regulations that Europe is imposing on the financial world is a powerful means of action with multiple consequences. While we are working to develop a responsible investment offer in order to meet the desire for meaning of our individual investor clients, I also see it as a tremendous lever for innovation and a vast field of opportunities.

Here are some examples:

SFDR (Sustainable Finance Disclosure Regulation) requires managers of sustainable funds to be much more transparent and precise in their communication on the extra-financial data of the companies they hold in their portfolio. Faced with the complexity of what is expected, many players - including Société Générale - have outsourced the collection and use of this data, creating a lucrative market for "ESG" data. This market is changing rapidly and alongside the major Anglo-Saxon players, innovative fintech are emerging, which has won over leading asset managers

Europe has created two new low-carbon indices, the EU Climate Transition Benchmark (EU CTB) and the EU Paris-aligned Benchmark (EU BAB), thus opening up a space for financial product innovation. For example, via Lyxor ETF, you will be able to invest in a basket of companies which you will know that they are successfully implementing a transformation trajectory of their online business model with a global warming scenario limited to 1.5 degree.1

The adding of questions on sustainable preferences in the "specific investor profile" questionnaire will certainly bring ideas for innovation, **like some startups which have developed algorithms for optimizing ESG profiling using behavioral finance.2**

"I also see it as a tremendous lever for innovation and a vast field of opportunities."

Claire DOUCHY,
Head of responsible projects at Societe Generale Private Banking France

Make no mistake: the ultimate goal of the European Commission is to massively redirect savings flows towards a sustainable economy, the definition of which will become more and more standardized. This movement will certainly push us as the "inventors" of financial solutions to offer more financial products with positive impacts. The success of our partnership with the crowdfunding platform LUMO specializing in projects contributing to the ecological transition is an encouragement to continue in this direction.

1. https://www.lyxoretf.fr/fr/instit/a-propos/news/product-news/lyxor-developpe-son-ecosysteme-d-etf-climat-accord-de-paris

2. https://lessentiel.novethic.fr/blog/business-case-3/post/preferences-esg-des-epargnants-la-fintech-neuroprofiler-facilite-le-questionnaire-de-durabilite-pour-les-conseillers-financiers-613

#6

INNOVATION INSIDER SWITZERLAND' FINTECH ECOSYSTEME

PUBLISHED ON 4 AUGUST 2021

SWITZERLAND, WORLD'S CHAMPION ON INNOVATION?

Anne Marion-Bouchacourt, Group Country Head for Switzerland and Chief Executive Officer of Societe Generale Zurich

Deia Markova, Head of Trade Commodity Finance of Societe Generale Zurich

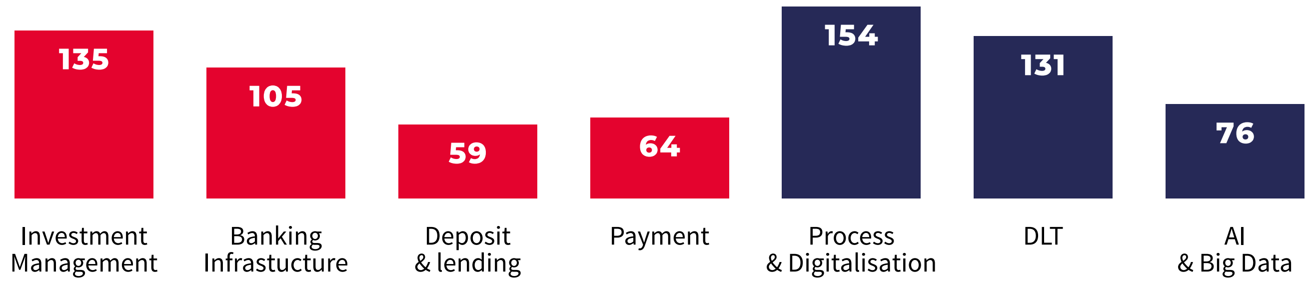
Isabelle Salomone, Deputy Head SGSS Switzerland

Ranked first by WIPO in 2020 as the most innovative country in the world, Switzerland is also in the 3rd position in term of competitiveness in the IMD business school ranking.

Among the 363 Fintech active in Switzerland, the largest part - and the biggest growth in 2020 - concerns the area of investment management and banking infrastructure. In parallel, on the technology side, the process digitalization and automation through AI represents 40% of the start-up solutions.

So, what brings this innovation leadership? There seems to be two main reasons:

A very supportive regulatory environment: Understanding that Fintech could not develop under the strict regulations financial players are governed with, the parliament amended in 2017, the Banking regulation in order to facilitate Fintech creation, removing entry barriers such as license requirement for the first 60 days to allow the testing of the concept. In 2019, a next facilitation step led to the creation a specific fintech license within the Banking Act, allowing fintech start-ups, under some conditions, to hold public money up to 100 CHF Mio.



Source: Swisscom Fintech map 2020.

Furthermore, the DLT framework, voted by the parliament in September 2020, has defined a concept of digital securities, as well as -lighter- requirements for their custodians. This law has established as well a new specific license for trading venues specialized on digital assets.

A highly qualified workforce: Four Swiss universities are represented in the top 100 best institutions worldwide. And in the category Engineering and technology, the Swiss Federal Institute of Technology (ETH) occupies the third place, just behind MIT and Stanford university.

Such an attractive framework and workforce have also attracted the world technology leaders who have located their European headquarters in Switzerland, such as for example, Google in Zurich and Libra Association-renamed recently to Diem Association- in Geneva. Both cities are, without surprise, well placed in the top ranking of the Global Fintech Hub Report (2020), Zurich moving up to the 4th place in Europe.

SWITZERLAND'S FINTECH: INTERMEDIATING FINANCING TO THE PUBLIC SECTOR THROUGH A ONE STOP SHOP PLATFORM

Loanboox, winner of the Swiss Fintech Awards in 2018, has kept expanding providing innovative financing solution to the public sector (SOEs, Municipalities, Cantons, ….). With 3'500 financing requests for a total volume of 55 bn CHF since its foundation in 2015, the Zurich-based start-up successfully finalized in 2020, the first Swiss digital green bond for Axpo, leading utility provider in Switzerland, in partnership with Société Générale Zurich.

EFFICIENT ONE-STOP SHOP

Loanboox, which positions itself as in intermediary between public players looking for financing and financial institutionals looking for secure and profitable investments, likes to define itself as Simple, Transparent, Cost Efficient and Secure with an interactive real time platform.

The journey starts with a platform, on which the potential borrowers and lenders meet. The start-up claims to have in Switzerland a pool of 500 institutional lenders (pensions funds, insurances, etc.) and, on the other side, more than 2000 public (cities, municipalities, etc.) and private sectors entities (utility, healthcare, etc.) as borrowers. Participation is subject to registration and verification by Loanboox.

Once the counterpart has been approved, the borrower can start the process by specifying the financing need: size, duration, and coupon are obviously the main indicators.

Then the interest of the lenders can be tested. The later can express their preference on the parameters and indicate the size they would be ready to finance. Having access to a rather large pool of potential investors/lenders, the borrowers can reach more easily the requested amount. As an example, the Axpo green bond of 133 mio CHF was shared among 35 different investors, with an initial demand for 100 mio CHF.

After the appetite of the investors has been tested, the real deal closure can start online. The process works like a stock exchange order book. In several cycles (runs) and over a limited, pre-defined, timeframe. In real time, the investors can confirm and adjust their offer. The borrower is also informed permanently about the order book development. Transparency implies that every investor sees in real time the appetite of other lenders,and can act accordingly. Finally, in the latest run, the intentions become binding offers. If the size requested by the borrower is reached, (in case of Axpo, the interest went far beyond the initially requested amount), the borrower concludes the transaction by selecting the final issuance volume. Based on that the final spread and interest rate are determined.

The services of the company include the automatic generation by the platform of the term-sheet and the draft prospectus.

The product can then be created and eventually listed on the Swiss exchange, the platform not only intermediating the lender and the borrower, but also the relation with the paying agent and (if applicable) the listing agent. Taking again the example of the Axpo, Societe Generale Zurich has been assisting the issuer in both functions. Through SGSS, the bond could be created in the CSD (Central Securities Depository) system, the payments and the order flows booked on the issuer account and, finally, the product listed on the Swiss Stocks Exchange.

All this service is available for loan size starting from CHF 50'000 and with a competitive pricing.

Loanboox does not limit its activity to the Swiss territory. The start-up expanded its coverage to Germany, Austria, Lichtenstein, the Netherlands and France. The newly appointed CEO, Philippe Cayrol, has joined Loanboox from a senior position in a French success start-up: BlaBlaCar. Shortly after this appointment, several French public entities (Limoges, Chaumont, Carbon-Blanc, Aude, Vaucluse) financed their projects using the Swiss platform. With 260 users on the French territory, this development will be further supported by the recent partnership with La Nef, which grants to Loanboox the exclusivity on green financing.

SWITZERLAND'S GREEN FINANCING IN THE COMMODITY FIELD THANKS TO TECHNOLOGY

Green finance is a movement that has been building in the financial sector for many years. However, what is really driving this movement are the corporates looking at how they can change the way in which they trade, source and produce, and this has been driving the demand for more sustainable trade.

Switzerland is the number 1 place for commodity trade finance: 35% of the crude oil exchanged in the world is bought or sold in Geneva; 60% of the world trade of base metals is handled from Switzerland, 30% of the cereals, 50% of the sugar, and 60% of the coffee are managed by companies based in Switzerland. Switzerland is also among the pioneers when it comes to Blockchain and cryptocurrencies with its Crypto Valley and Geneva as a home to Facebook's Libra.

In this context we are seeing the acceleration of digitization of trade commodity financing, with more transparency and better ways to verify data in a trusted way. It now allows to view transactions in real time, with a tracking of the goods from production to destination: from the physical traceability of products, the identity of producers and the trade documents for each transaction. And this now allows a bank to structure a financing linked to sustainable business practices.

One concrete project, which we are currently testing with a start-up company, using big data and AI is to measure the CO2 emissions of the different trade flows made by our clients thanks to a mapping of all steps of the trade flows. The ability to do this mapping, offers then, both our clients and ourselves, a better understanding of where their business stand today in terms of carbon footprint at each steps of a transaction (in the warehouse, at the port, on the ship ….); with this we are able to move towards choosing the right logistics routes and transportation means in order to minimize the carbon footprint, but also to finance only those flows which are greener.

This type of application also permit to check which fuels are used: advanced biofuels made from plants that aren't grown for food, with then, little to no fertilizer (which is a big emitter of GHG), others made from agricultural byproducts, used oils or pulp, or rather standard ethanol.

Over the years, global trade has lifted millions out of poverty and has accelerated innovation. And now thanks to technology we see that it can even go one step further reducing it carbon footprint alongside continued growth. International trade with it is heavy use of transportation is a big carbon producer and it has become a central part of the solution to the environmental challenges we face. And Switzerland with its unique position in between, its trade commodity hub, its ecosystem of startups and its close link to the key impact funds (Blue Orchard, Symbiotics, Responsability, …) will be the main driver towards the re-shaping of the trade activity and will allow it to contribute to the global ambition of a zero-carbon world.

#7

INNOVATION INSIDER #ESDW2021 LET’S TALK SUSTAINABILITY AND INNOVATION

PUBLISHED ON 5 OCTOBER 2021

IS IT POSSIBLE TO ACCELERATE THE ESG TRANSFORMATION OF A GLOBAL PLAYER LIKE SOCIETE GENERALE IN A VUCA WORLD?

BY **OLIVIER PICARD**, THE GROUP’S DEPUTY HEAD OF CSR

Olivier Picard,
The Group’s Deputy Head of CSR

The global economy is experiencing new forms of crises, and worse is predicted if Environmental, Social and Governance aspects are not better taken in account in each player’s decisions. Finance can play a key role in achieving the sustainable development goals of the United Nations and those set by the Paris Agreement, and at Société Générale we are already taking actions alongside our clients to reach these goals. But many highly operational obstacles still need to be overcome.

ESG issues are moving targets; they are themselves VUCA:

- **Volatile**, the various ESG aspects truly are. Starting with climate change: even for the most informed people, the latest IPCC (Intergovernmental Panel on Climate Change) report has rewritten some of the most pessimistic forecasts. Preserving biodiversity is also an increasingly worrying issue, with growing awareness, as we saw this autumn at the IUCN (Union internationale pour la conservation de la nature) Congress in Marseille and hope to see at COP15 in Kunming.

- **Uncertain** because the indicators that measure the attainment of each of these goals are constantly evolving. Even persuading people to launch IT developments is currently a challenge as definitions and standards are debated in France, in Europe and internationally. Initiatives are emerging with the aim of standardising non-financial indicators in a more homogeneous and transversal manner, but they are even more numerous than the themes they aim to coordinate.

- **Complex** is a qualification often used with regard to the Sustainable Development Goals because these objectives are not distinct from each other. The attainment of one must not be obtained to the detriment of the others. The European taxonomy of sustainable activities could not avoid bringing to this complexity a response that exposes us to complicatedness, with a taxonomy by sector, which includes technical criteria for climate and Do Not Significantly Harm criteria for other sustainability goals.

- **Ambiguous** would be immediately associated with greenwashing. For the reasons mentioned above, it is difficult to support ESG commitments with relevant and stable indicators in their definition. The lack of transparency and, even worse, the ambiguity of the indicators remains a major obstacle.

DESPITE THIS VUCA ENVIRONMENT, SOCIETE GENERALE IS ACCELERATING ITS ESG TRANSFORMATION

Europe, and in particular France, are making rapid progress on the definition of sustainability standards and rules that, precisely because they reduce uncertainty, are accelerating the transformations already undertaken by French banks for some years now. As a founding partner and signatory of the UN's Principles for Responsible Banking, the Group is committed to being transparent about positive and negative impacts and about its contribution to society's goals. This transparency requires significant investments in data, reporting and steering systems. The Group has thus developed a programme under the dual sponsorship of the Finance division and Corporate Social Responsibility department that aims to develop more industrial capabilities for transaction monitoring and reporting. This programme targets both internal management needs and compliance with regulatory requirements in the field of sustainability reporting (the European taxonomy applied to banks in the form of a Green Asset Ratio and, more generally, the requirements of the Corporate Sustainability Reporting Directive[1]).

Although the transformation of information systems and the enrichment of data are major topics, it would be reductive to target ESG transformations on this single area. Thus, we felt it was necessary to structure a more systemic approach covering the evolution of the customer offer, the training of staff, the integration of ESG considerations in risk management systems and the organisation of the ESG teams in place. For example, the training action has been designed in an articulated manner with the other streams. It comprises 4 pillars: the massive development of the staff culture (i. e. La Fresque du Climat / The Climate Fresk), practical training sessions on E & S risk management, specific training for staff in direct contact with clients concerning the issues pertaining to certain sectors of activity, and the ability to disseminate internal expertise through training modules.

We are at the point in our transformation where these streams are being launched and where it will be necessary to ensure overall Group coherence in the long term while the transformation and the innovation will come from the businesses. In a VUCA environment, the biggest difficulty of these transformations is actually to adopt the appropriate pace and manage complexity without becoming complicated.

1 https://ec.europa.eu/info/publications/210421-sustainable-finance-communication_en#csrd

WE ARE CSR!

BY **IOANA BOTEZATU**, HEAD OF CSR FOR SOCIÉTÉ GÉNÉRALE EUROPEAN BUSINESS SERVICES (SG EBS) AND SOCIÉTÉ GÉNÉRALE GLOBAL SOLUTION CENTRE (SG GSC) INDIA AND ROMANIA

To give meaning to the CSR concept, which businesses translate in ESG metrics – a new parameter for performance comparison – we need to be aware of the new mindset we ought to have, the sentiments that will appear and help in the process, and the approach we should adopt to maintain and where needed to restore, the integrity of our society. The key attitude that changes the landscape of business is to feel empowered to demand responsibility. If we are in that space, it means that we are already practicing it. Being aware of what are the immediate CSR tasks a business needs to action, is a necessity and should not be used to shield away from addressing both topics of this discipline: the impact we have on our natural environment and in relation to social concerns, including governance frameworks. Let me focus on the environment element as this is an elevated perspective that is possible on a stable social fabric and foundation, that Société Générale, as the name suggests, has been diligently promoting throughout.

FROM GENERAL TO SPECIFIC

Take the easiest and yet the hardest example: based on research from the international community, through the Carbon Majors Report done by CDP in collaboration with the Climate Accountability Institute, it revealed that only 100 fossil fuel producers are accountable for more than 70 % of all global Green House Gases (GHG) emissions since 1988, meaning 635 billion tons of GHG emitted since that year. Of course, that it means these companies need to invest in robust and reliable energy transition plans, and at the same time, ensure that human rights and the wellbeing of their staff and other direct stakeholders are also covered.

HOW DO WE SOLVE THIS CONUNDRUM, AS OUR SOCIETY IS MAINLY POWERED BY THE FOSSIL FUEL INDUSTRY?

Our Group has sensed well and acted on the importance of our role to support this industry, by announcing a gradual exit from fossil fuels. This action should actually attract these economic actors as clients, because with a responsible banking paradigm, it accelerates their transition into green energy, into new business models, into guardians of our shared clean air. We should all demand responsibility from ourselves and from our partners.

SURELY THAT NOT EVERYTHING IS RESPONSIBILITY PROOF, EVEN WHEN WE DEMAND IT. WHAT IS THE ANTIDOTE FOR GREENWASHING?

The antidote at hand is to know when to be skeptical about declarative commitments. For this, I want to briefly share the six sins of greenwashing, that I recently read in an a study of Environmental Claims in North American Consumer Markets, that could help us in identifying when to demand enhanced proof of environmental or social responsibility.

1. The Sin of the Hidden Trade-off is committed by suggesting that a product is green based on a single environmental attribute or a narrow set of these - a sin that is apparently the most frequently committed.

2. The Sin of No Proof is when the company cannot substantiate it with easily available information or a thirdparty verification.

3. The Sin of Vagueness is observed when companies poorly define or broadly define claims, which can also be misunderstood by clients.

4. The Sin of Irrelevance, or how I like to call it from Latin Ignoratio Elenchi, means failing to address the issue in question.

5. The Sin of Lesser of Two Evils is essentially a distraction from the real issue.

The last one identified in this report is 6. the Sin of Fibbing, or simply lying about the claim a company is making.

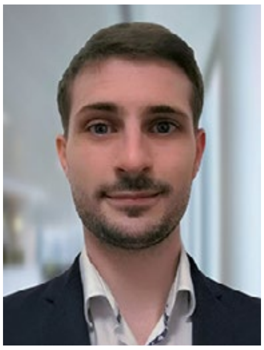
WHAT HAPPENS IN GSC INDIA AND ROMANIA?

We are privileged to have dedicated colleagues and a strategy that guides our actions in India and Romania in the following CSR areas: Unity in Diversity - proactively seeking equity for colleagues and the external ecosystem, Environmental Integrity and Sustainability, Stakeholders Sense Fulfillment through and not limited to Citizenship actions, CSR in our DNA for our internal policy shaping, CSR by design for IT systems, and CSR as a Service - as our business model calls for.

We generally rely on external innovation for environmental sustainability efforts in SG GSCs locations. Our actions have orbited around the following elements: exit from single use plastics, AI for lighting, desks made out of recycled materials, including for office consumables, permanently reduce paper use and printing, favoring an increase in green supply in our energy mix, including considering investments in solar and wind energy on site, and ensuring we have a policy for reduced travel, as well as observing the Sustainable Acquisitions Charter. Naturally, our favorite area is Sustainable IT, both hardware optimization for decarbonization and Green IT and coding for responsible software - where we have both impact and innovation potential. What is important is that we demand responsibility from ourselves and our stakeholders, that is the game changer rapport that builds our green and clean future. Step in and join us!

WHICH ESG DYNAMICS TO MEET THE FINANCIAL SECTOR'S CLIMATE COMMITMENTS?

BY **GUILLAUME HUREAUX**, DATA SCIENTIST AT GROUP SOCIÉTÉ GÉNÉRALE INNOVATION DEPARTMENT



We've now reached the end of Summer 2021 after having witnessed once again extreme climatic events occurring all over the world: giant fires, deadly floods, heat peaks… In addition, the 6 th IPCC assessment report published this August confirms that global warming is causing an increase in the frequency and intensity of extreme events. However, while the need to reduce our greenhouse gas (GHG) emissions has been agreed upon for several decades, the trend in CO2 emissions remains the same, increasing by an average of 2 % per year over the last 20 years. The recent pause following the economic slowdown in 2020 (-5.8 %) is expected to be brief, as the figures for 2021 are rising again[1]. It is therefore becoming urgent for our society to seriously begin its "decarbonization cure", which, in order to stay below the famous 2 °C threshold of the 2015 Paris Agreement, must correspond to a cumulative repetition of the decrease observed in 2020 each year until 2050! To meet this challenge, the financial sector, at the heart of the economy, has a major role to play, and the involvement of all its staff is crucial.

THE DIFFERENT MEANS OF ACTION FOR THE FINANCIAL SECTOR IN A LOW-CARBON SCENARIO

To meet the various commitments made on the climate issue, **financial actors can act on several levels** and some measures have already been taken in this regard:

- First, and because it is delicate to be credible when one is not exemplary oneself, it is essential to **act on the sector's direct GHG emissions**. In particular, and while the digital sector currently accounts for 4 % of global GHG emissions, it is important to ensure that the rapid digitalization of businesses remains compatible with a low-carbon trajectory[2]. This is why Société Generale signed the Sustainable IT Charter in 2019.

- Second, the main lever to act for the decarbonization of society on a larger scale lies in **how we finance the economy**. This is achieved through responsible management of credit portfolios in order to support activities in line with the ecological transition, while disengaging from the most emitting activities and accompanying them on a conversion strategy. To this end, five banks including Société Generale have developed since 2018 the open source methodology PACTA to ensure alignment of their activities with their commitments in five high-carbon sectors (fossil fuel extraction, electricity generation, transportation, steel production and cement production).

- Finally, the financial sector can also use its role as a trustworthy third party to **engage its retail customers**. For example, to help its clients identify their main GHG emissions areas, NatWest partnered with the fintech Co Go to offer them a tool that estimates the carbon footprint associated with their expenses. For users of the service, an average decrease of 11 kg of CO2 per month was observed[3]. Furthermore, Société Générale is currently experimenting with the startup PlanA. earth to calculate its carbon footprint. This solution also makes it possible to further involve the employees in the emission reduction process through periodic monitoring and adapted recommendations.

THE NEED TO BUILD AN EFFECTIVE ESG DYNAMIC

In order to get ready for action, **the appropriation of these subjects by employees is key**, and with this in mind, several initiatives have been implemented within the Group. For example, a community of facilitator of La fresque du climat has been created and now brings together more than 80 trained facilitators.

Moreover, within the innovation division of the group, we have also taken several actions to ensure that the team fully takes these issues up:

- **Understanding of the Group's ambitions and CSR strategy** by all members of the team, and illustration through initiative sharing sessions.

- **Participation in collaborative workshops and programs**, including la fresque du climat, to generate commitment, but also possibly to raise personal awareness.

- **Encouragement to learn about the challenges of the energy transition**, including its financing, through conferences and discussions on the subject.

To take advantage of the central positioning and the numerous interactions of the team, these actions are designed to be **easily replicable** to allow if needed **a wide and rapid diffusion** of these topics within the Group. This point will be a determining factor in meeting the targets set by the Net-Zero Banking Alliance by 2030.

1 https://www.iea.org/reports/global-energy-review-2021/co2-emissions
2 https://theshiftproject.org/article/pour-une-sobriete-numerique-rapport-shift/ (fr)
3 https://www.finextra.com/newsarticle/38460/natwest-rolls-out-carbon-emissions-app/sustainable

#8

INNOVATION INSIDER: IS THE PROMISE OF CDBCS TOWARDS A MORE DISTRIBUTED & EGALITARIAN FINANCIAL SYSTEM? A VIEW FROM CHINA

PUBLISHED ON 19 NOVEMBER 2021

EMERGING TREND OF CBDCS (CENTRAL BANK DIGITAL CURRENCY)

Claire Calmejane,
Chief Innovation Officer,
Societe Generale

In this special edition, I want to highlight the expertise of the ADN China Chapter around payment ecosystem in China, through their own market analysis but also through interviews with Tian Luan, Director at Innoway and Gavin WANG, head of China cash management. Let's find out more about what's going on there!

The digitization of world has pushed digital payments and settlements to a whole new level, booming through fast and game-changing innovations. However, most of these innovations are still based on conventional clearing and settlement banking infrastructure, efficiency, instantaneity and universality may be challenged.

Inspired by the blockchain and distributed ledger technology (DLT), several government bodies emerged to study, pilot, and deploy their digitalized fiat currencies. No matter based on what technology, the digital fiat currencies, or Central Bank Digital Currencies (**CBDCs**), are attracting increasing attention globally.

The Chinese CBDC, namely **DC/EP(1) scheme or e-CNY**, has emerged in utilization in 2019 and marked several milestones ever since.

Below is an overlook of China digital payment ecosystem and potential future impact of newly released DC/EP.

VIEWS ON DIGITAL PAYMENT FROM EXPERT OF TOP TMT COMPANIES IN CHINA

ABOUT WECHAT PAYMENT

As a top TMT company in China, Tencent officially launched its WeChat payment business in 2013. In the past eight years, it has promoted WeChat Payment to almost all possible payment scenarios, including shopping, catering, and utilities, covering more than 30 industries and 2 million stores, and perfectly integrated into WeChat ecosystem of tools and services.

ON-GOING TRANSFORMATION OF CHINA PAYMENT ECOSYSTEM

It is likely that third-party payment will be even more active in the future and more scenarios will appear for our users.

New technologies - such as facial recognition - will emerge to help payments. Obviously facial-recognition payments, while being convenient for end-users, will also foster new applications in payment scenarios in the coming years.

There are also additional underlying technologies that can improve payment efficiency, such as the integration of payment and blockchain. Though value-added for front-end individuals should be relatively subtle in the short term, if we multiply the efficiency increase by our huge traffic base, this impact should be very large for our technology company.

Mobile or digital payment is supported by a variety of technologies, including computing resources, 5G infrastructure, algorithm support, and data storage, all of which consume large scale technical resources. We have observed that some large Multi-national Companies are considering migrating their data center to the Asia-Pacific region. Such moves should have huge impact on payment efficiency and its energy consumption.

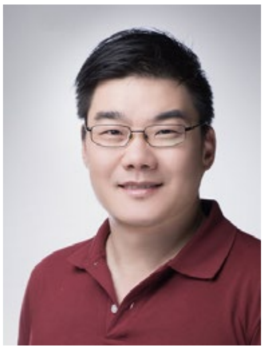
CHINA DC/EP AND WECHAT PAYMENT

China's Central bank digital currency or DC/EP on one side and WeChat Payment and Alipay on the other side should mutually benefit from each other ecosystems. WeChat and Alipay have already built mature payment ecosystems, and DC/EP would only need to connect to these ecosystems to be utilized in multiple business scenarios.

To some extent, WeChat Payment has an ecosystem concept that there should be a wholistic system of third-party service providers around payments to realize its large-scale utilization. Thanks to the 2 digital payment giants in China, DC/EP only needs to be fed into the WeChat or Alipay ecosystem as an upstream or source, while WeChat or Alipay serve as a third-party tool to foster its impacts. As DC/EP is the source of digital currency, with more of the currency plug into ecosystems already established by the two giants, the ecosystem of digital payments in China market will be even more active.

INTERVIEW ON DC/EP TO TIAN LUAN, DIRECTOR AT INNOWAY, CHINA'S TOP INNOVATION INCUBATOR

BY **FREDA WANG**



Tian Luan,

Director at Innoway, China's top Innovation Incubator by Freda wang

1. Innoway has a similar positioning for innovative entrepreneurs in China as Station F in France. Could you please introduce what kind of organization Innoway is? What differentiates Innoway from other innovation hubs in the world?

Established in 2014 with over 50,000 square meters, Innoway's was initially focusing on mass entrepreneurship, supporting start-ups to make entrepreneurial attempts with incubation and acceleration services. Nowadays Innoway is more focusing on targeted innovation, investing dedicated resources on core technology companies, and providing specific services to these companies.

Station F is similar in set-up and size with Innoway. Indeed, Innoway is closely cooperating with Station F, as we have an office within Station F in Paris and we originally planned to build a large-scale Entrepreneurial Center in Station F (but the plan was put on hold due to the Covid epidemic).

2. In your view, what is the inner motivation for the development of the digital payment industry in China?

From my perspective, China's payment system jumped directly from cash payment era to mobile payment era very abruptly. There was of course credit card payment era, but it did not last long. The fact is: even until now China has not developed the culture and habit of credit card payments, and thus there are no Chinese credit card giants formulated such as Master and Visa. This, to some extent, helps to promote the development of digital payment in mobile side, as there are no credit card giants to occupy the potential market share and thus reducing the obstacles to the development of mobile payments. In addition, in the initial development stage of the personal mobile payment in China around 10 years ago, there was no such law like GDPR with specific regulations on data. Therefore, there was a relatively large room for data usage in the initial trial stage of personal mobile payment development in China market, and the government was also very supportive to the start-ups at that time. Till now, the Chinese government has established a series of data security laws and regulations, which have relatively more restrictions on the companies in this area.

3. Alipay and Tencent Payment are currently the two dominant digital payment service providers in China, and the central bank has gradually rolled out DC/EP testing to various scenarios in recent years. What's your view of DC/EP in China and its meaning to the economic market?

Per my understanding, the implementation of DC/EP can help the government better monitor whether there are illegal money laundering activities. It can also be connected with the tax system to monitor invoice taxation and related economic crimes. Meanwhile, I think DC/EP can support supervision and strengthen regulation on financial market through technology, covering the dimensions of both digital currency and digital transactions. With the mass applications of DC/EP in China's society, the source of funds can be traced to confirm the origin and destination of economic transactions. In addition, international business interoperability can be realized more conveniently through the implementations of DC/EP cross the border.

OVERVIEW OF THE DIGITAL CURRENCY/ELECTRONIC PAYMENTS

BY **GAVIN WANG**, HEAD OF CHINA CASH MANAGEMENT

WHERE DOES CHINA STAND ON ITS CBDC?

People Bank of China (PBoC) has decided to focus on retail CBDC. While not explicitly reporting why such decision, there are reasons to believe that a retail-focused digital currency will benefit more the country than a wholesale one, considering the complexity of different usage scenarios required by 1.4 billion citizens, their digital maturity and China's ambition for RMB internationalization.

According to White Book on e-CNY issued by PBOC in July 2021, the pilot scheme recorded total settlement of 34.5 billion CNY within China, through 25 million wallets, and 71 million transactions. Even though the scale of the test seems to be comprehensive and result fruitful, PBOC indicated that they do not have a time schedule for official launch of the e-CNY.

One frequently asked question is - is DC/EP a project based on blockchain technology? Well, there is neither official statement nor formal technology roadmap available to answer this question, and blockchain is not mentioned in recent PBOC white paper on e-CNY progress. So, we might infer that blockchain technology could be an option in the long run, but not necessarily in the existing infrastructure today.

HOW MIGHT BANKS BENEFIT FROM A NEW CHINESE E-CNY?

- **Change of ecosystem, use case, and more...**

Alipay/WeChat Payment - which represent together 93% of the mobile payment market share - will face certain challenges from e-CNY in the long-run. Both are likely to be involved as operators of e-CNY, connecting to the service network to transact e-CNY for their customers. Their business model should likely evolve to include more value-added services. They must innovate hard to keep entertaining their users, providing rich functions on top of payment/collection, and remain relevant to the end-users and merchants. They also face the risk of losing their duopoly, as users will be able to transfer account balance from Alipay to WeChat Pay or any other third-party payment service providers leveraging on e-CNY's interoperability.

Such change brought by e-CNY might have less impact to banks than to those third-party payment service providers, because banks low market shares on retail payment services. However, bank accounts and e-CNY wallets will hold predominant domestic individual RMB balances in the future, taking shares from Alipay/WeChat Pay account balance.

- **Digital Yuan (e-CNY) implication in cross-border payments**

As discussed, PBOC as made a natural and pragmatic choice to focus on its home market in China for current e-CNY promotion. However, for a forward-looking approach, we shall look at the overseas strategy of e-CNY and how it copes with the RMB internationalization progress.

The very precondition is the possibility to issue e-CNY in offshore market, like what PBOC does in home market today. Clearing would likely continue to be handled by PBOC in China directly, while issuance could be done by overseas banks. An e-CNY payment initiated from a wallet Brazil could be instantly settled in an e-CNY wallet held by someone in Shanghai within seconds, based on the P2P transaction design revealed in PBOC's white book.

Gavin WANG,
Head of China cash management

As promising as it seems, such cross-border payments will also bring new concerns, like financial sovereignty issue, KYC issue, information security etc. Countries will not support its citizens to widely use currency of another country in their home market. The scenario described earlier involves mostly international e-commerce or individual payments, but much bigger volume happens between institutions for large settlements. Wholesale CBDC will find its advantages against retail CBDCs in the institutional use here and could evolve to be the mainstream in future cross-border payment infrastructure.

Maybe for such reason, the multi-CBDC Bridge project co-driven with PBOC, HKMA, Bank of Thailand and UAE Central Bank has started. The purpose of the project is to test a shared ledger support for multiple CBDCs through a corridor network. This model should provide compatibility to different CBDCs when it comes to international settlement. It should solve the cross-border financial sovereignty concerns and may generate settlement efficiency versus old correspondence banking model. This project could shape the future global CBDC governance, while providing China with first-hand experience to improve e-CNY's internationalization component for investment, FX, sovereign reserve and more. However, to further promote RMB internationalization, China must work hard on other dependencies, such as capital accounts, open domestic financial market, legal framework, and regulatory governance.

LOOKING AHEAD...

BY **GAVIN WANG**

One thing for certain is that e-CNY will continue to be one of the strategic financial system infrastructure topics in the long-term horizon in China and abroad. Among many reasons, we believe these can be on top of the long list:

• Based on its strong digitalization, China needs a robust currency in digital form for the future.

• The e-CNY will provide in-depth insight from cash circulation in the country to help fine-tuning their policies (better understanding of China credit structure, management of the money supply, cross-border transactions controls, …).

• Operation costs will be lower than cost of physical banknote, with features to better counter money laundry, terrorist financing and proliferation financing, etc.

• Based on collaborations with the CBDCs of other countries, opportunity to challenge SWIFT and the dollar monopolies, while helping a further internationalizing of the Yuan.

The official deployment in the China market seems to be promising and nearing soon. Conventional bank outlets should further reduce in number, replaced by more ATMs scattered across the country only processing e-service and e-CNY, and banknotes usages should continue to decrease. More "automated" transactions should emerge, powered by smart contracts in e-CNY to complete payment without any human intervention. Travelers to China should be able to register e-CNY wallet with email and then get e-CNY through online service. And the list of changes shall go on.

APPENDIX

1. **DC/EP stands for "Digital Currency / Electronic Payments"**. e-CNY is a "sub-product" derived from the DC/EP scheme, although today it is still the only product visible to public.

2. **Non-interest-bearing:** e-CNY is a replacement of physical banknote, therefore it does not bear interest, nor does it fall into the category of "bank deposit" accounting wise.

3. **Disconnection to bank accounts:** e-CNY wallets are not necessarily bank-account based. Users can open stand-alone wallet without bank account.

4. **Legal Indemnity by PBOC:** e-CNY has same legal claim right to the physical banknote, obviously.

5. **"Controllable" anonymity:** e-CNY wallets have different classifications. Information is stored and managed by different parties along the flow, only PBOC has oversight of all information while other designated operators will have limited visibility. Users can open anonymous wallet under certain condition and amount threshold (although we assume PBOC shall still have ultimate oversight even wallet is opened anonymously).

6. **Programmable smart contract:** without compromising the core indemnity feature, e-CNY could be programmable into something "smarter".

SOCIETE GENERALE