GreenFinTech Strategy
of the National Bank of Georgia
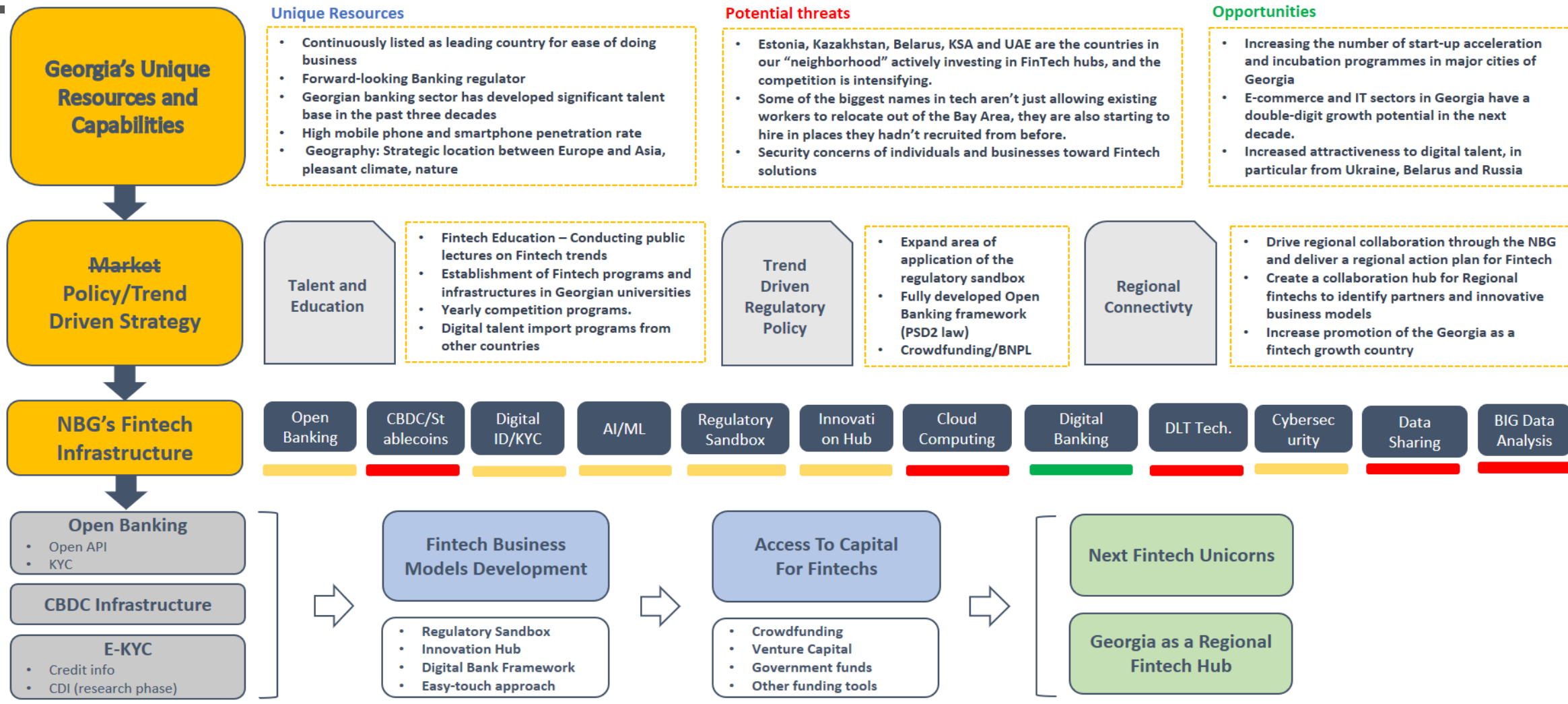## from Minimizing Negative Footprint to Maximizing Positive Handprint

VARLAM EBANOIDZE & REZO BERADZE

Goal

➢ **Next Fintech Unicorns**
➢ **Georgia as a Regional Fintech Hub**

Strategy

Co-ordination of policy/trend-driven approach and Fintech development strategies to drive adoption

Georgia's Unique Resources and Capabilities

Unique Resources

- Continuously listed as leading country for ease of doing business
- Forward-looking Banking regulator
- Georgian banking sector has developed significant talent base in the past three decades
- High mobile phone and smartphone penetration rate
- Geography: Strategic location between Europe and Asia, pleasant climate, nature

Potential threats

- Estonia, Kazakhstan, Belarus, KSA and UAE are the countries in our "neighborhood" actively investing in FinTech hubs, and the competition is intensifying.
- Some of the biggest names in tech aren't just allowing existing workers to relocate out of the Bay Area, they are also starting to hire in places they hadn't recruited from before.
- Security concerns of individuals and businesses toward Fintech solutions

Opportunities

- Increasing the number of start-up acceleration and incubation programmes in major cities of Georgia
- E-commerce and IT sectors in Georgia have a double-digit growth potential in the next decade.
- Increased attractiveness to digital talent, in particular from Ukraine, Belarus and Russia

~~Market~~ Policy/Trend Driven Strategy

Talent and Education
- Fintech Education – Conducting public lectures on Fintech trends
- Establishment of Fintech programs and infrastructures in Georgian universities
- Yearly competition programs.
- Digital talent import programs from other countries

Trend Driven Regulatory Policy
- Expand area of application of the regulatory sandbox
- Fully developed Open Banking framework (PSD2 law)
- Crowdfunding/BNPL

Regional Connectivty
- Drive regional collaboration through the NBG and deliver a regional action plan for Fintech
- Create a collaboration hub for Regional fintechs to identify partners and innovative business models
- Increase promotion of the Georgia as a fintech growth country

NBG's Fintech Infrastructure

Open Banking	CBDC/Stablecoins	Digital ID/KYC	AI/ML	Regulatory Sandbox	Innovation Hub	Cloud Computing	Digital Banking	DLT Tech.	Cybersecurity	Data Sharing	BIG Data Analysis

Status colors: Open Banking (Partially), CBDC/Stablecoins (Not), Digital ID/KYC (Partially), AI/ML (Partially), Regulatory Sandbox (Partially), Innovation Hub (Partially), Cloud Computing (Not), Digital Banking (Fully), DLT Tech. (Not), Cybersecurity (Partially), Data Sharing (Not), BIG Data Analysis (Not)

Open Banking
- Open API
- KYC

CBDC Infrastructure

E-KYC
- Credit info
- CDI (research phase)

→

Fintech Business Models Development
- Regulatory Sandbox
- Innovation Hub
- Digital Bank Framework
- Easy-touch approach

→

Access To Capital For Fintechs
- Crowdfunding
- Venture Capital
- Government funds
- Other funding tools

→

Next Fintech Unicorns

Georgia as a Regional Fintech Hub

Project Status: ▬ Fully operational ▬ Partially operational ▬ Not operational

NBG GreenFinTech Strategy

FinTech is uniquely fitted to affect the end user's ESG-related user experience ***form minimizing negative footprint to maximizing positive handprint***

Open Finance Opportunities and Prioritization Matrix

Customer value →

Complexity ↑

Impact →

Value-driven use cases

V
1. Comparison tools for provider switching
2. Online brokerages that provide financial products with the best value
3. *(obscured)*
4. *(obscured)* management
5. Alternative credit scoring methods
6. Digital tools to assess the ESG profile
7. Banking as a Platform (BaaP)
8. KYC/Digital ID services for Quicker customer onboarding
9. Embedded Finance
10. QR Codes payments
11. FX exchange platforms
12. Cloud accounting and sophisticated cash flow management

M **Potential Marketplace**
1. Retail
2. SME
3. Agriculture
4. Travel and Transport

Digital tools to assess the end-user's ESG profile

With its "single behavioral view" feature Open Banking/Finance enables *digital tools to assess the end-user's ESG profile,* the use-case V6

Bubbles: V6, V12, V3, V8, V4, V9, M4, M1, V7, V11, V1, M3, V2, V10
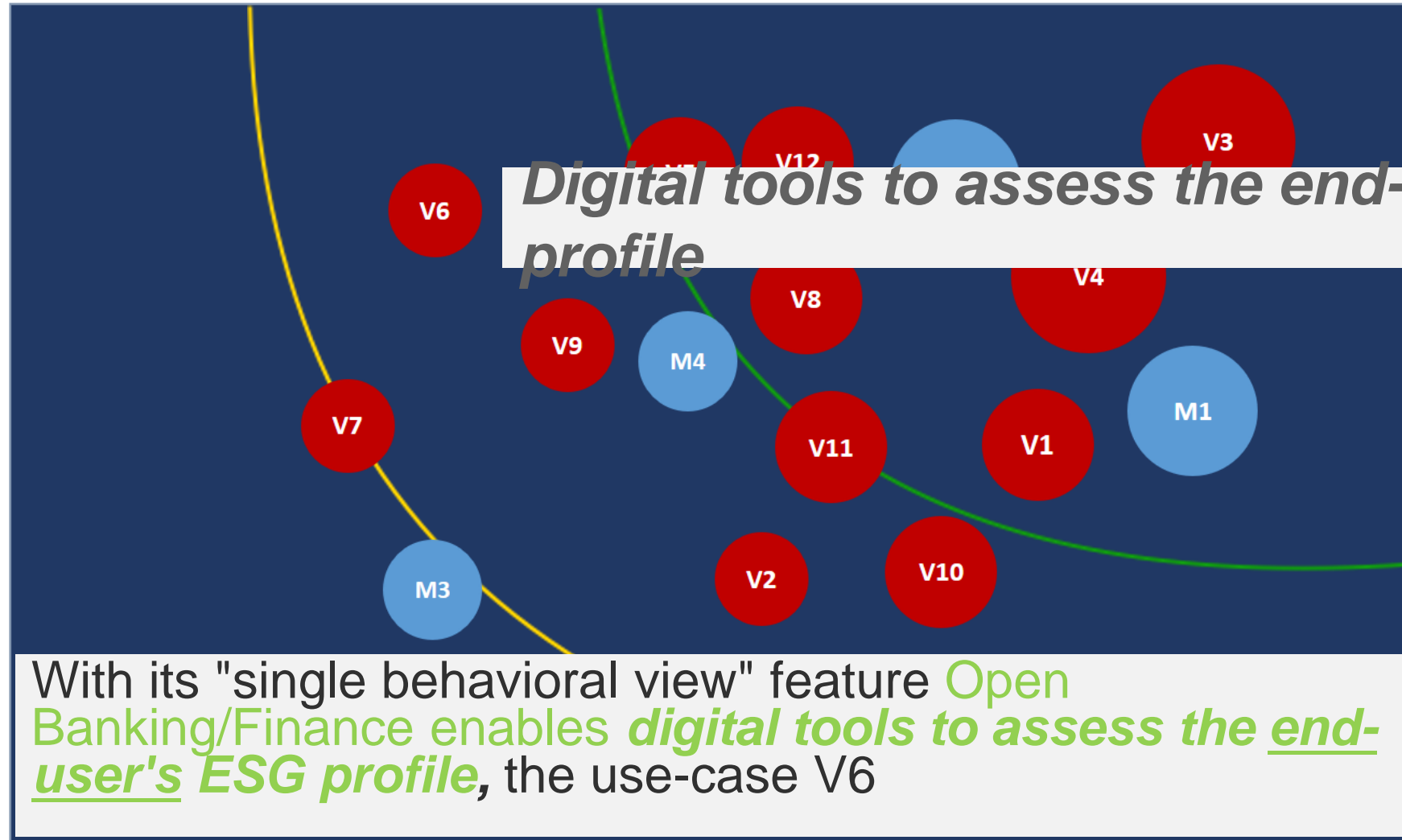
Atomic Settlements in IoT and Circular Economy

USE - CASE MATRIX

The explorations regarding CBDC and added-value enabling technology instruments and features are still ongoing, however preliminary NBG has already identified set of value-added use cases for the general public, which are outlined in the prioritization matrix.
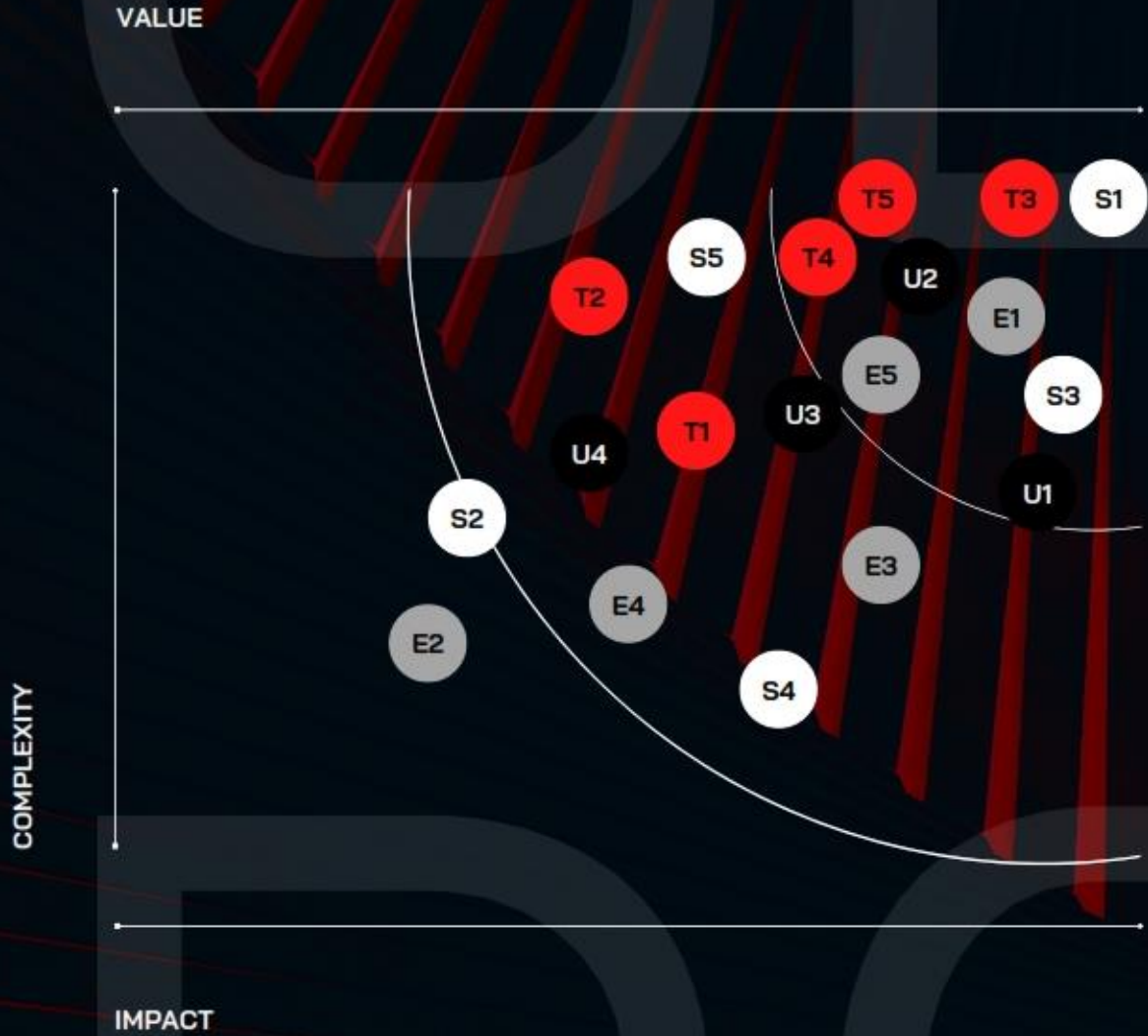
T - TECHNOLOGY ENABLED USE CASES

01. Atomic Settlement;
02. Atomic Swap;
03. Iterative Payments;
04. Micro & Machine to Machine Payments;
05. Cross - Border Remittances;

E - TOKENIZATION & E - GOVERNANCE

01. e-ID & e-Signature;
02. Tokenized Commemoratives;
03. Retail Tokenized Gov. Bonds;
04. Transparency Tools & Automated Reporting;
05. Ownership Tokens;

S - SMART CONTRACTS & PROGRAMMABILITY

01. Event Triggered & Custom Logic Transactions;
02. Decentralized Automated Insurance;
03. Real Estate & Other Types of Assets Acquisition;
04. Escrow Alternative;
05. Payment Order & Token Grade Programmability;

U - PLATFORM USERS

01. Retail;
02. Fintech;
03. MSME;
04. Government;

NBG's approach

- NBG has found a balance between being "Solutions Obsessed Versus Problem Obsessed". During the limited access live environment pilot stage, NBG will "Learn by Doing" and implement a "Bottom-Up" approach while going through the most relevant use cases for the local landscape.

- Despite the fact that primary financial infrastructure, instruments, and services in Georgia are predominantly available to the general public, the National Bank of Georgia identified several gaps and designed Central Bank Digital Currency [CBDC] to address those areas with specific, contextualized and value driven use cases.

- NBG's stakeholde-centric CBDC platform will complement existing payment channels [including the upcoming instant payments system] and provide a safe foundation for private sector innovations in order to meet society's current and future needs.

- NBG will be on track to support wider trends and new promising innovations by facilitating a new digital form of money to adopt features and instruments aimed to expand functionality and bring increased value for retail users and the private sector.

WHO

WHAT

CITIZENS

A modern, efficient, fast, and less costly way of making payments and money transfers. Besides, CBDC boosts (if not included) an e-ID and e-Signature system making them easier and quicker to use.

MERCHANTS

Creates a cheaper and more efficient way of accepting digital payments. With the system in place, CBDC can also introduce automatic taxation and save merchants time and costs, which are currently used for Tax declarations every month.

FINTECH

Introduces an innovative platform and new market opportunities for fintech companies to design new financial services and products, stimulating the growth of revenue and increasing the capacity to innovate more.

GOVERNMENT

- With the programmable money, CBDC will increase transparency over public funds use;

- CBDC will make the digitalization process for different government entities much easier;

- Automatic taxation will significantly reduce the need for auditing and therefore enable cut down on resources required;

- Stimulate the creation of new jobs that will come with the development of the fintech sector;

- Allow ease of access to financial services and products for all users of CBDC.

MIGRANTS

Given that CBDC account holders can exchange other currencies to D-GEL outside of Georgia, CBDC will make it far cheaper for them to send money home.

TOURISTS

Given that citizens of other countries can create D-GEL wallets (under certain terms), tourists coming to Georgia will be able to exchange other currencies to and from D-GEL even when they're outside of Georgia, so they won't have to spend time finding physical exchanges, or deal with increased rates of international card payments.

HOW

LEGAL

By addressing the Parliament of Georgia to ratify the legal bill for the extended payment system act in order to ensure CBDC's Legal Tender;

By developing specific certification and authorization procedures for License Service Providers contributing to operations for CBDC Network;

By forming a Supervisory Council.

TECHNICAL

By arranging/developing the DGEL Network and subsequent software/hardware infrastructure;

By attracting fintech companies to penetrate CBDC service/products related market and develop the subsequent assets management infrastructure.

PARTNERSHIP

By selecting a CBDC Core Solution provider to arrange the DGEL Network and subsequent infrastructure;

By cooperating with other Central Regulators to exchange experiences and consolidate on Cross-Border matters;

By inviting other governmental entities to join the discussions to find relevant areas for CBDC Network infrastructure application;

By inviting stakeholders from the retail sector to participate in a Pilot program and incentivize DGEL use within the population - From auto maintenance, grocery, shopping, and medical industry.

What's a urinal fly, and what does it have to with winning a Nobel Prize?

Analysis by Christopher Ingraham
Reporter
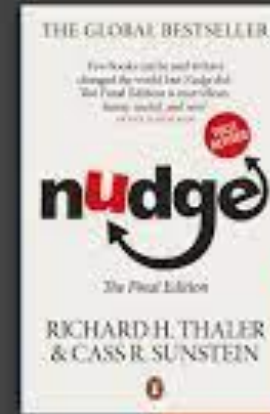
October 9, 2017 at 10:49 a.m. EDT

🎁 Gift Article   ⬆ Share

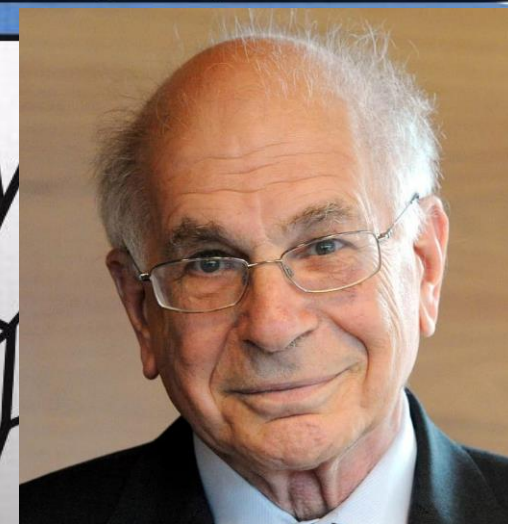If you want to understand why the University of Chicago's Richard Thaler won the Nobel Prize in economics this year, look no further than the urinal fly.
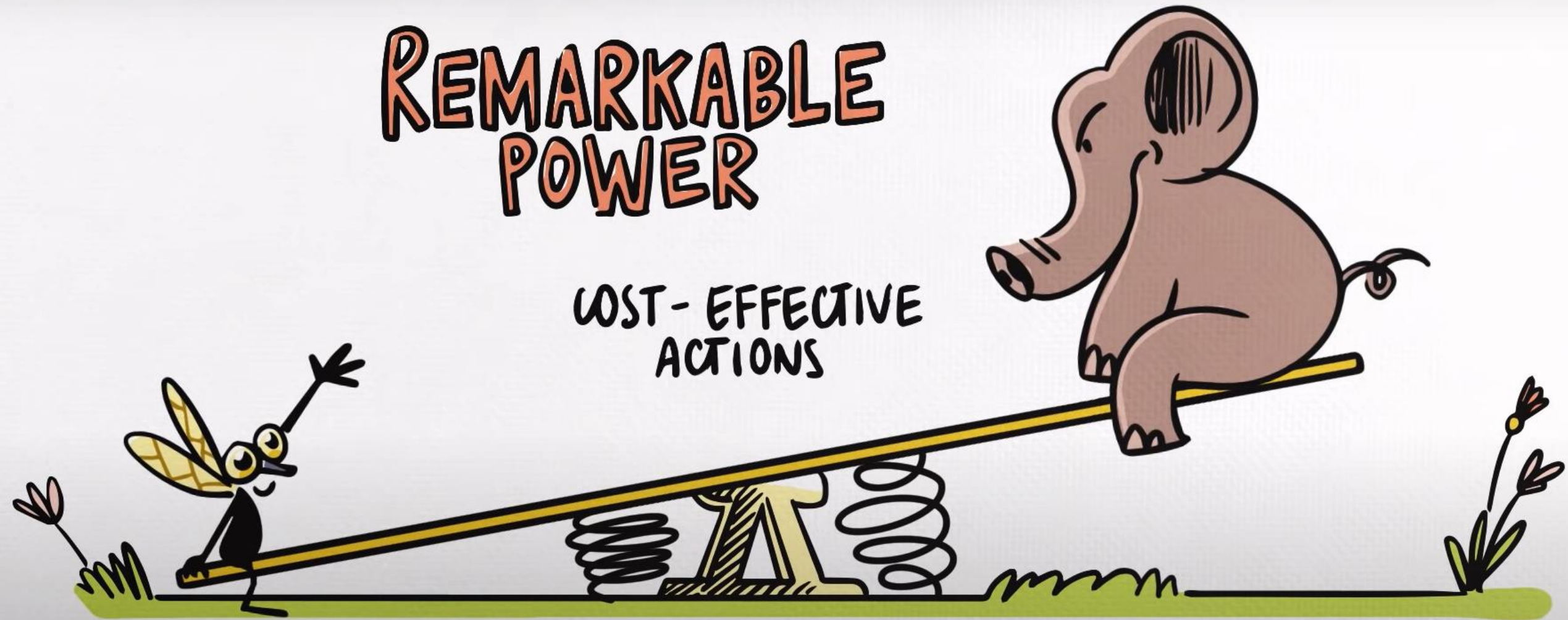
NUDGE

BEHAVIORAL ECONOMICS

Nudge

❑ Thaler and co-author Cass Sunstein define it as a choice **"that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives**."

❑ They're not mandates. Nudges don't attempt to make it impossible to do the wrong thing, but rather they **make it easier to do the right thing**.

Power to change behavior through the <u>cost-effective</u> actions

Urinal Fly at Amsterdam's Schiphol Airport

❑ Richard Thaler the Nobel Prize winner economist calls the urinal fly his "favorite illustration" of a nudge.

❑ If you're looking to reduce spillage you could, say, institute a policy prohibiting bad aim, and hire attendants to enforce the policy by handing out fines to violators. But this would be expensive and contentious, was well as hugely intrusive into one's bathroom time.

❑ The flies do the same work as overbearing restroom attendants without any element of forced coercion. They make it easier for people using the urinals to make the right choice.

Questions:

❑ Do you know your fuel consumption – most probably YES as cars provide the live data

❑ Do you know you electricity consumption – most probably NO. Energy use is considered "low interest" information: Unless your electricity is out, you probably don't care about it that much.

❑ Robert Cialdini, who presented the idea that **the most powerful tools to influence behavior are when an individual is presented with a normative comparison**, or the idea of comparing an individual's score, ranking or performance to the average of the group.
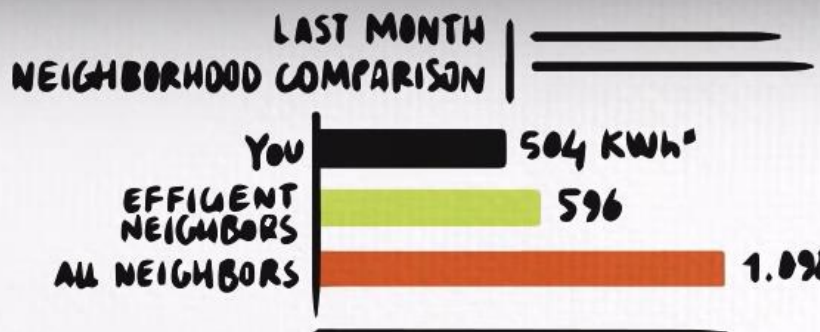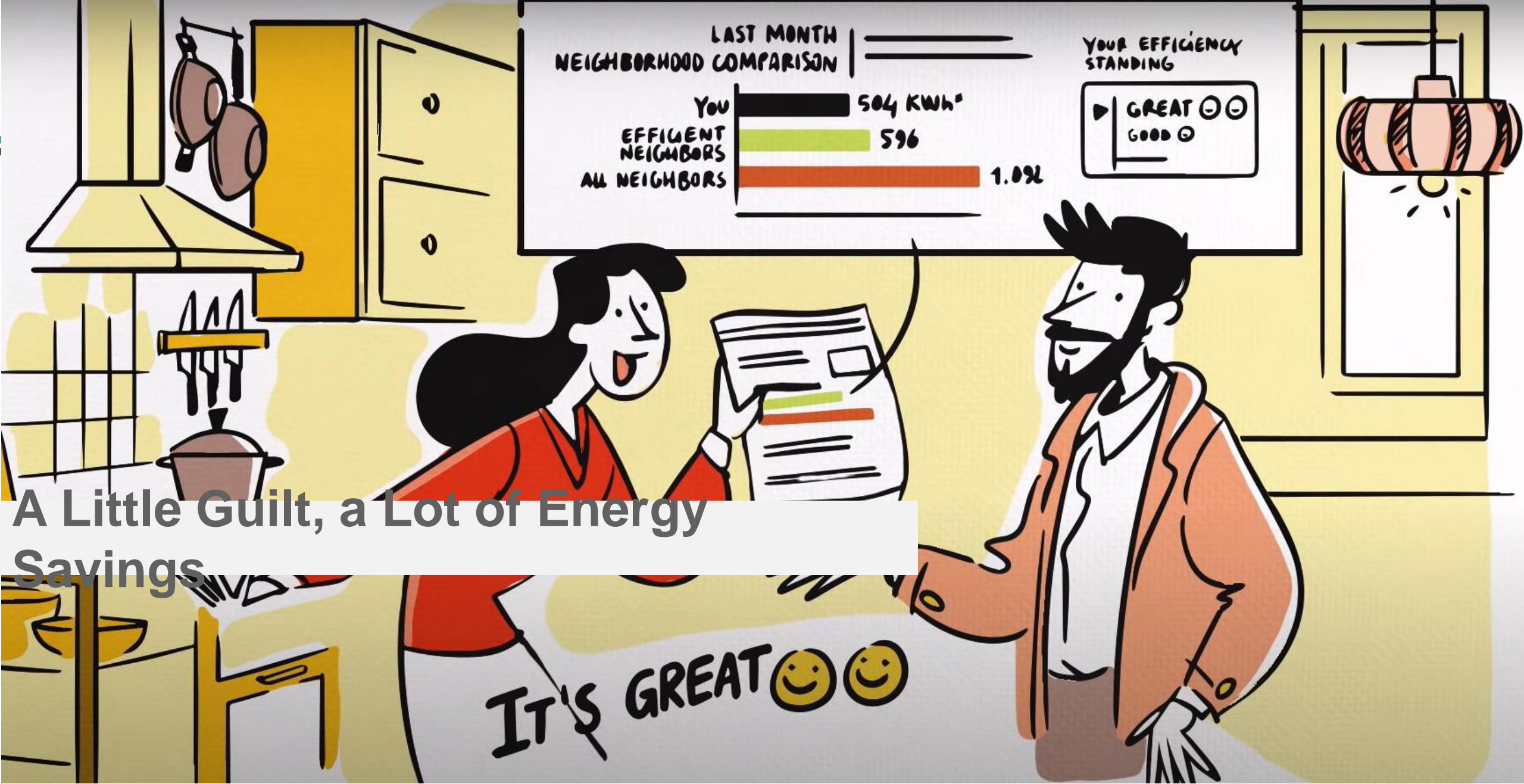
A Little Guilt, a Lot of Energy Savings

- Opower requires customers to opt out of these reports rather than opt in. According to Ogi Kavazovic, vice president of product and strategy, an opt-in system will result in 1 percent of customers opting in, while an opt-out system results in 1 percent of customers opting out.
- In addition to giving you feedback on your energy use, the report includes a bar graph that compares your own energy consumption with your community's average and that of your community's most energy efficient households
- But the real key is one last box: a grade assessing your energy consumption. You receive two smiley faces for great conservation (that is, using less than 80 percent of what your neighbors do), one for good (using less than *most* of your neighbors do), none for bad (using more than most of your neighbors).
- The strategy is called "injunctive messaging," and it's the core of the company's own behavioral nudge.
- The habit acquired through nudges, moreover, can last a lifetime: **"trying to change behavior is difficult, trying to maintain already-learned behavior is pretty easy."**

Maximize the positive handprint

❑We discussed the minimization of the negative footprint

❑We can go further and maximize the positive handprint **by combining FinTech and Mobile Games**

Ant Forest in Alipay

- Launched by Ant Financial Services Group, an Alibaba affiliate, Ant Forest promotes greener lifestyles by inspiring users to reduce carbon emissions in their daily lives.

- When they do, Ant Forest rewards them with 'green energy' points, which can be used to plant a real tree.

- Ant Forest users are encouraged to record their low-carbon footprint through daily actions like taking public transport or paying utility bills online.

- For each action, they receive 'green energy' points and when they accumulate a certain number of points, an actual tree is planted.

- Users can view images of their trees in real-time via satellite.

On the Intersection of Fintech, Behavioral Science, and Gaming
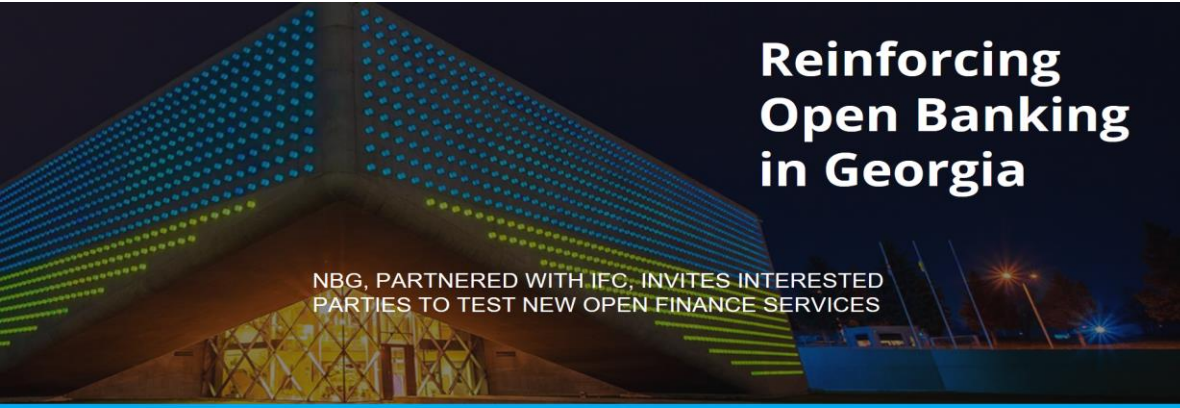
Fintech

Games, Apps

Behavioral Sciences
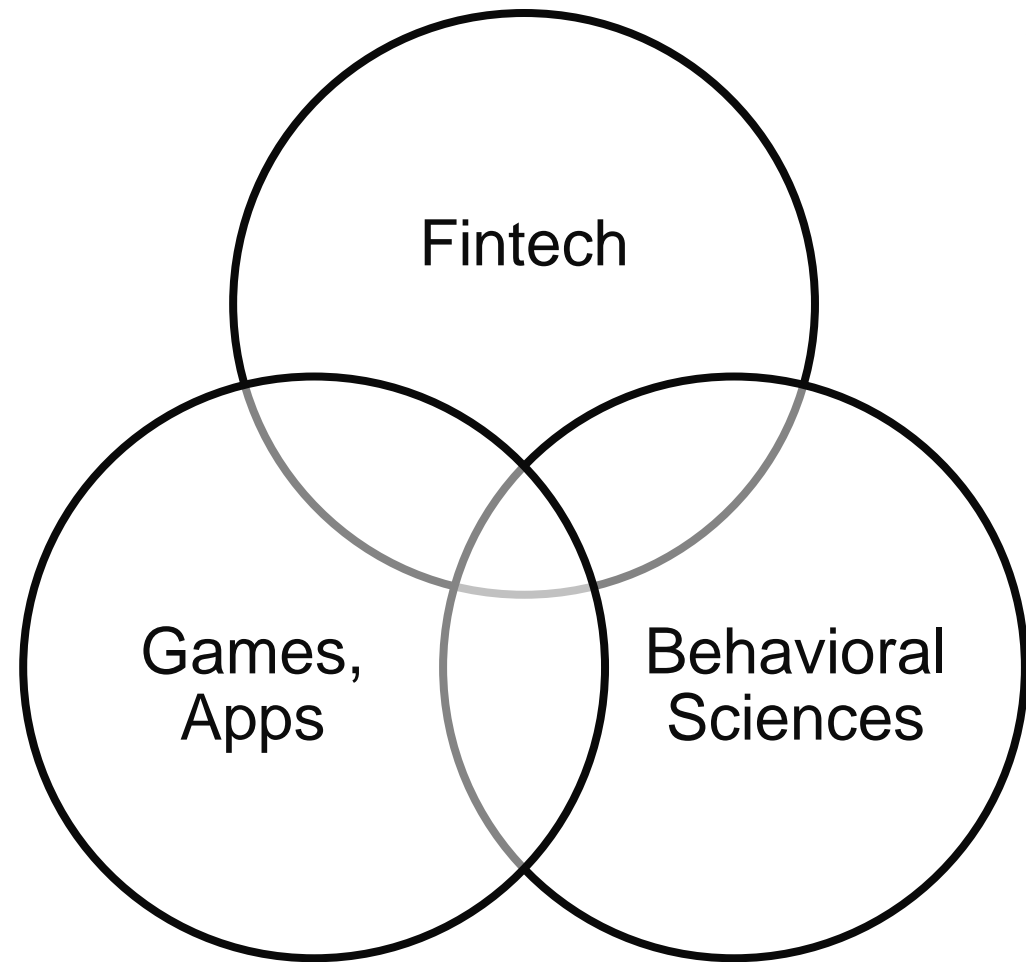
- Once the "footprint" is visualized and calculated with the behavioral interventions techniques such as "nudges" it is possible to affect the consumer's behaviour in a cost-efficient manner. for example **comparing your energy bill with the neighbors bill -** "social pressure nudge"
- Ant Forest in Alipay - **from minimizing Negative Footprint to Maximizing Positive Handprint - on the intersection of FinTech and Gaming**

International cooperation

- **The IFS's open banking technical sandbox and BIS innovation hubs Fintech projects for exploring a "public good" could be a good analogies to create a interdisciplinary and cross–country "GreenFinTech Ssandbox" or announce a techsprint as a starting point.**

- **The design of the GreenFinTech sandbox could include, among other things, testing the power of AI/ML and LLM's to create behavioral nudges.**

International sandboxes with the NBG's participation

Reinforcing Open Banking in Georgia

NBG, PARTNERED WITH IFC, INVITES INTERESTED PARTIES TO TEST NEW OPEN FINANCE SERVICES

IFC International Finance Corporation WORLD BANK GROUP | საქართველოს ეროვნული ბანკი National Bank of Georgia

sfn

FCA TO LEAD GREENWASHING TECHSPRINT

BISIH and NBG. Project mBridge.

საქართველოს ეროვნული ბანკი
National Bank of Georgia

საქართველოს ეროვნული ბანკი ბაზელის ინოვაციების ჰაბთან (BISIH) თანამშრომლობას იწყებს

BIS Innovation HUB

- NBG has joined BISIH's project mBridge as an observer this month, and later will be transitioning to a more active involvement.

- Project mBridge experiments with cross-border payments using a custom-built common platform based on distributed ledger technology (DLT) upon which multiple central banks can issue and exchange their respective central bank digital currencies (multi-CBDCs).

BISIH and BISIH. Project "Aurum".

საქართველოს ეროვნული ბანკი
National Bank of Georgia

საქართველოს ეროვნული ბანკი ბაზელის ინოვაციების ჰაბთან (BISIH) თანამშრომლობას იწყებს

BIS Innovation HUB

- Project Aurum, is a retail CBDC project, which studies architectures of intermediated CBDC and CBDC-backed Stablecoins and develops technology prototype for them. The technology prototype is designed under the principles of safety, flexibility and privacy. BIS member central banks can access the concluded tech manuals and other necessary materials for further experimentation, which could help foster progress on the development of retail CBDC.

- By participating in these projects, the National Bank will have the opportunity to gain the experience of other jurisdictions with regard to CBDC, to test its own CBDC technology in various directions, and to receive all the benefits that the BIS Innovation Hub offers to central banks within these projects, at the initial stages.

The NBG receives a CBDC central banking award for innovative open finance concept and for it's <u>Bottom to Up approach</u>

Subject: Winner – Central Banking FinTech & RegTech Global Awards

Dear Tamta,

I am very pleased to say **the FinTech & RegTech Global Award judges have made the decision to recognise National Bank of Georgia with the CBDC Initiative** Award for 2023.Congratulations!

The awards are due to be announced online June 14, so until that time I would ask you keep this information on a need-to-know basis. We will be issuing a press release nearer the time, so if you want to coordinate your own announcement, I am sure we can cooperate on this.
All the best,
Joasia
Joasia E. Popowicz | Chair, Fintech & Regtech Global Awards

Thank you for your attention!

Questions?