A Decade of Client-led Innovation
To the Next 10!

Gulru Atak
Head of TTS Global Innovation &
Dublin Innovation Lab
April 4, 2019
10 years of innovation building meaningful & fruitful partnerships

Client engagement

Inform & Inspire

Engage to Learn and Validate

Collaborative Ideation

Co-creation: Partnerships in Innovation

Explore & experiment

2009

Technology engineering strong design

User experience and interactions

Partner with Business – enable & execute

Engagement & partnership beyond (FinTech, regulatory, academia)

2019

Collaborating with our TTS Business Partners in Innovation

Translate the vision into aspirational outcomes and relatable concepts

- Client Experience Workshop
- Principles to guide TTS
- Cross-Border Payments Workshop
- Strategy for future of payments
- Commercial Cards Workshop
- Discover new opportunities

Identify and explore unsolved problems

- Wire Check
  Intelligent routing and handling of payments
- Credit Limit Utilization
  Anticipating corporate card usage

Drive easy intuitive & effective user experiences

- Digitizing the Client Experience
- TTS Payment Insights
- Account Opening
- Front-end Experience
- Supporting 2-day onboarding
<table>
<thead>
<tr>
<th>Year</th>
<th>Visits</th>
<th>Engagements</th>
<th>Collaborations</th>
<th>Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>107</td>
<td>300</td>
<td>140 +50</td>
<td>3</td>
</tr>
<tr>
<td>2018</td>
<td>134</td>
<td>298</td>
<td>158</td>
<td>6</td>
</tr>
</tbody>
</table>

* Collaboration includes engagement with client on validation of concepts and projects
TTS Commercial Cards & Innovation Lab: Co-design with Google

The Workshop

4 days

30 in Citi Team

27 ideas

7 concepts

4-day Discovery Workshop: Commercial Cards global team and the Innovation Lab in Dublin, building on partnership to generate insights, ideas and new opportunities

Day 3 Client Co-Creation Session
Journey Mapping for the 4 Googlers (diverse users of Commercial Cards) & Ideas Showcase and Feedback Session

Key messages

- We can always understand our clients better
- Clients need fast access to more quality, accessible data
- Use specific user journeys to drive client experience and functionality
- Explore ways to enable client anticipate and optimise usage of the service
Co-creating the Future of Insurance – Multi National Non-Life Insurance

Key representatives from business and functional departments of the Insurance Client paired up with Citi corporate and consumer bankers for a full day session to reimagine the future of insurance.

Client Co-Creation Session included:
- Share outs of strategic vision
- Understanding of client’s business challenges and future vision
- Deep understanding of clients customers journey
- Citi’s payment transformation initiatives
- Co-Ideation Design Workshop Session

For Our Client: helping to develop innovative ideas from across their organisation to form potential digital transformation journeys centred around their own customers.

For Citi: allowed the opportunity to bring our client into our product development lifecycle at an early stage and validate potential use-cases of an emerging new solution.

Outcome:
- 1 full-day in Citi Team
- 8 in Client Team
- 23 ideas
- 80 prototypes
- 4 prototypes

Implementation of faster payment solution for insurance claims
Payment ecosystem transformation opportunities with clients and garage partner
Validated understanding on the future of insurance from client
Potential partner arrangements between Citi and the Insurance Company for origination
Exploratory Workshop with Multinational Development Organization

Client Co-Creation Session included:

- Share outs of strategic vision and key pain points
- Citi’s payment transformation initiatives
- Future payments innovation: state backed digital currency/stable coin
- Innovation In Action; lab projects underway
- Issuer services strategy and emerging market infrastructures
- Brainstorming Design Session

2-day Discovery Session in the Dublin Lab with one of the largest public sector multinational organizations focused on a number of client-requested topics ranging from payments advancements, predictive analytics, Citi’s blockchain initiatives, and collaboration opportunities across transaction services and issuer securities services.

Outcome:

6 opportunities identified to continue exploration of the ideas and move towards the proof of concept stage.
Partner Collaboration: Engaging an Ecosystem – Komgo Leading with Expertise and Insight

Blockchain CoE
Global Innovation Lab

Commodity Trade Finance
Payments Network
Citi TTS

Citi Equity Stake

TTS Innovation Lab
venture with

Concept

To create a secure, real-time distributed platform to manage the financing of physical commodity transactions from trade entry to final settlement

Build in Optionality

Blockchain CoE developing:
- Nexus dlt connector
- Signer dlt access management

Komgo Phased Delivery

Prioritizing propositions to deliver value and enable connected platforms
Engaging with the Wider World to Learn, Co-operate, Transform

Fintech engagement for awareness, connections & partnership

Partnership with academia

Citi University Partnerships In Innovation & Discovery (CUPID)

Cornell University

The Innovation Lab will run the new Europe extension of this program from 2019

Unlocking the Power of Synergy between Citi and

Columbia University
Georgetown University

Regulatory strategy and policy

Bringing insights to TTS & to clients influencing regulatory bodies on innovation agenda

Connecting with Reg Tech

Ambassadors program in Citi – risk, compliance etc. as partners in innovation journey
All part of a Broader Landscape of Collaborative, Client-centric Innovation Across TTS

<table>
<thead>
<tr>
<th>Payments</th>
<th>Commercial Card</th>
<th>Thematic Explorations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal Routing</td>
<td>Smart “Cards”</td>
<td>Connected City</td>
</tr>
<tr>
<td>On-Us Payments Processing</td>
<td>Liquidity</td>
<td>Connected Mobility</td>
</tr>
<tr>
<td>DLT Payment Connectors</td>
<td>Liquidity Optimization</td>
<td>Fiat-Backed Stable Coins</td>
</tr>
<tr>
<td>Improper Payments</td>
<td>Trade Finance</td>
<td>Fungible Loyalty</td>
</tr>
<tr>
<td>Channels</td>
<td>Trade Information Network</td>
<td>Sustainability</td>
</tr>
<tr>
<td>Assistants</td>
<td>Open Trade Exploration</td>
<td></td>
</tr>
<tr>
<td>Digital Documentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signing Tools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smart Agreements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Your Strategic Topic for Joint Exploration and Co-Development
Our Quest for Discovery doesn’t stop. Trending next…
Interconnected Ecosystems
New and Emerging Tech Driving Connected Economies

We estimated each technology’s disruptive potential (bang) and time to impact (fuse) – 2020

Disruptive Technologies Radar

Size of bubble is representative of potential market size of the respective technology area in 2020

1 Time to impact: is a function of evidence of existing adoption in the form of use-cases, and Gartner’s hype cycle guidance
2 Impact potential: is a function of the scale of market investments, potential market size in 2020, and Gartner’s hype cycle guidance on individual technologies
6 emergent social, commercial, regulatory and technological drivers of change are shaping tomorrow's market.

- The Connected Economy
- The Subscription Economy
- The Experience Economy
- The Personalised Economy
- The Open Economy
- The On-demand Economy

Emerging today, shaping tomorrow.

Source: Jonathan Vaux, VP Innovation, Visa. August, 2018
Connected Economy – Connected Ecosystems

Traditional Connectivity Was Driven by People

Future Connections Will Include Objects

Source: Citi Research
New & Emerging Tech

Cross-sector collaborations

Interconnected Ecosystems

Global trends

Competitor Collaborations: Co-opetition

- IoT
- AI
- 3D printing
- Smart mobile
- Automation / robotics
- Data storage – big data
- Cloud computing
- Augmented reality / Virtual reality
- Blockchain
- 5G
- Pay per use
- Fuel costs
- ecommerce
- Urbanization
- How we consume
- The environment
- Renewable energy
- Resource limitations
- Health and well being
- Value-oriented spend
- Monetizing data

- Geo Technology – Shell
- Renault – L’Oreal
- Artfinder – myhotels
- Disney – Citrus Suite
- Monarch – FairFX
- Enterprise Europe Network
- BMW – Daimler
- Ford – Volkswagen
- Citi – FinTechs
- Samsung – Sony
- Honda – General Motors
- Boeing – Lockheed Martin
- Ford-Toyota – Suzuki
- Tesla – Daimler
Forward Focus: Connected Mobility Ecosystems

Exploring the future of mobility as connected ecosystems through the journey of a person, as well as of a physical good, to identify the challenges and opportunities of transaction banking for our clients in this space.
A selection of what we in the Lab will be working on this year...

- Known Priorities
  - Future of payments

- Future of Service
  - Client experience and success

- Connected Mobility
  - Exploring implications of ecosystems in transaction banking

- Continuing story of Blockchain

- Experimentation in and application of artificial intelligence and data analytics technologies
Let’s Co-Create!
IRS Circular 230 Disclosure: Citigroup Inc. and its affiliates do not provide tax or legal advice. Any discussion of tax matters in these materials (i) is not intended or written to be used, and cannot be used or relied upon, by you for the purpose of avoiding any tax penalties and (ii) may have been written in connection with the “promotion or marketing” of any transaction contemplated hereby (“Transaction”). Accordingly, you should seek advice based on your particular circumstances from an independent tax advisor.

Any terms set forth herein are intended for discussion purposes only and are subject to the final terms as set forth in separate definitive written agreements. This presentation is not a commitment or firm offer and does not obligate us to enter into such a commitment, nor are we acting as a fiduciary to you. By accepting this presentation, subject to applicable law or regulation, you agree to keep confidential the information contained herein and the existence of and proposed terms of any Transaction.

We are required to obtain, verify and record certain information that identifies each entity that enters into a formal business relationship with us. We will ask for your complete name, street address, and taxpayer ID number. We may also request corporate information documents, or other forms of identification, to verify information provided.

© 2019 Citibank, N.A. All rights reserved. Citi and Citi and Arc Design are trademarks and service marks of Citigroup Inc. or its affiliates and are used and registered throughout the world.

© 2019 CitiBank, N.A. London. Authorised and regulated by the Office of the Comptroller of the Currency (USA) and authorised by the Prudential Regulation Authority, Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. All rights reserved. Citi and Citi and Arc Design are trademarks and service marks of Citigroup Inc. or its affiliates and are used and registered throughout the world.

© 2019 Citibank Europe Plc. Regulated by the Central Bank of Ireland. All rights reserved. Citi and Citi and Arc Design are trademarks and service marks of Citigroup Inc. or its affiliates and are used and registered throughout the world.