



DATA ANALYTICS AND FINANCIAL SERVICES REGULATION IN THE 21ST CENTURY

Public policy innovation, like business innovation,
demands creative outside-the-box thinking

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PAYPAL IS A GLOBAL LEADER IN THE INNOVATIVE LANDSCAPE OF PAYMENTS

- There are a wide variety of industry players in the modern payments arena:
 - **Traditional Financial Institutions:** Bank of America, Citi
 - **Traditional Payments Providers:** Mastercard, Visa, Discover
 - **Technology Companies:** PayPal, Google, Stripe, Dwolla, Apple
 - **Telecoms:** Softcard [T-Mobile, Verizon, AT&T]
 - **Merchants:** Merchant Consumer Exchange [Walmart, Lowe's, Best Buy, Target]





GLOBAL FOOTPRINT = GLOBAL REGULATION

- PayPal has a network of network of more than 193 countries and regions and localized websites in 80 markets
- PayPal operates as a money services business in the US
- PayPal has a money transmitter license in 47 states
- PayPal Europe is regulated as a bank in Luxembourg
- PayPal Private Ltd., is regulated in Singapore as a stored value issuer
- PayPal is affiliated with Shanghai Wangfuyi Information Technology Ltd., licensed as an Internet Content Provider
- PayPal Australia Pty. Ltd., is licensed as a purchased payment facility provider





PAYPAL SUPPORTS THE TIMELESS GOALS UNDERLYING PAYMENTS REGULATION

- **Anti-Money Laundering** – Illegal capital flows destabilize the market
- **Consumer Protection** – Fraud harms consumers, financial services, and the larger economy
- **Stability of the Financial System** – Individual consumers should have consistent access to and service from their financial services



WE ARE INTERESTED IN ACHIEVING BETTER REGULATORY RESULTS FOR ALL STAKEHOLDERS

- We believe that that implementing the new approach to regulation described below will enable regulators to better achieve their goals, will benefit consumers, and will allow for a faster pace of innovation in the payments industry.

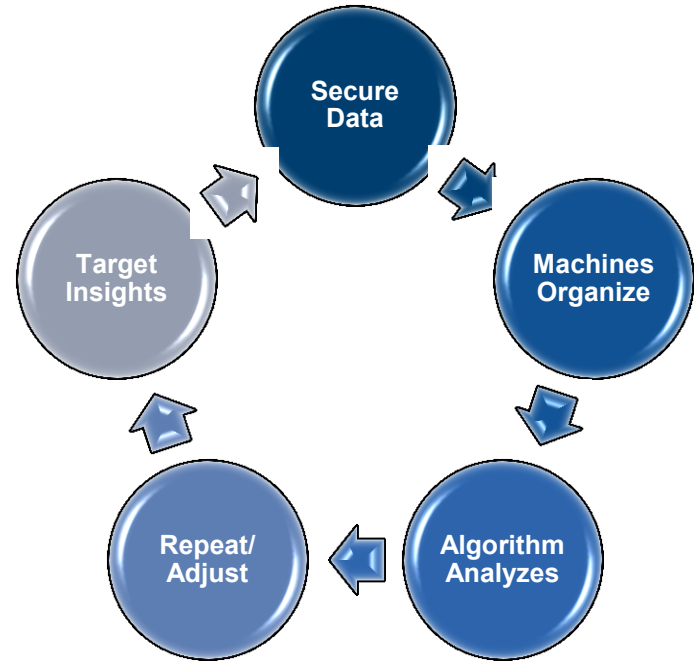


REGULATORY HISTORY: DESIGN STANDARDS VS. PERFORMANCE STANDARDS

- **Design Standards** – Rigid requirements that are disconnected from the regulatory goal, unable to adapt to change in the environment, and favor incumbent firms that have implementation procedures in place
- **Performance Standards** – Requirements measuring performance that directly relate to the regulatory goal, enduring despite changes in the business environment, and enable innovation by allowing for discretion in implementation.

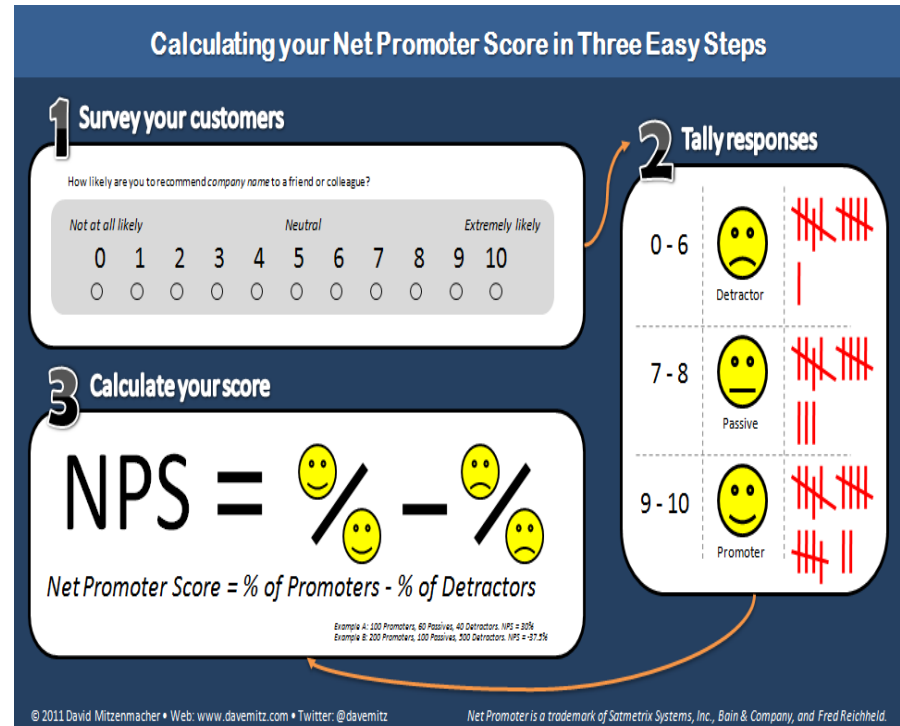
SMART GOVERNANCE

- **Secure** large amounts of data
- **Machines** organize the data
- **Algorithms** glean insights
- **Readjust** steps 1-3 (constantly)
- **Target** insights towards goals



AN EXAMPLE OF OUTCOME BASED MEASUREMENT

- Net Promoter Score (NPS) is a single question survey that is administered to users of a product or service to determine how consumers feel about the product or service
- Organization are constantly iterating to improve their NPS score





DYNAMIC PERFORMANCE STANDARDS

- **Performance Standards** – Specify an outcome, but leave specific measures to achieve the outcome to the regulated entity
- **Data Analytics** – Enhancing the ability to measure and analyze the regulated entities' efforts to meet the performance standard
- **Iteration** – experimentation and testing is required to achieve a more optimal result; safe harbors are the ideal method through which to iterate
- **Collaboration** – Market wide consultation and the use of computers, crowds, and experts enables new insights that are not possible when regulators act alone



A MORE COLLABORATIVE MODEL

- Creation of Expert Working Group
 - Regulators (Agency)
 - Regulated Entities (Industry)
 - Technical Experts (Data Scientist)
 - Policy Experts (Academic)
 - Consumer Experts (NGO)

OPTIONS FOR IMPLEMENTATION

- **Regulatory Manager Model**

Regulator and
Expert Group set
out goals

Regulator creates
algorithm

Regulator analyzes
and houses data

Regulator can use
enforcement
authority against
actors that fall short

OPTIONS FOR IMPLEMENTATION

- **Regulatory Auditor Model**

Regulator and
Expert Group set
out goals

Regulated entities
create algorithms

Regulated entities
analyze and house
the data

Report from
regulated entities is
subject to audit

OPTIONS FOR IMPLEMENTATION

- **Regulatory Oversight Model**

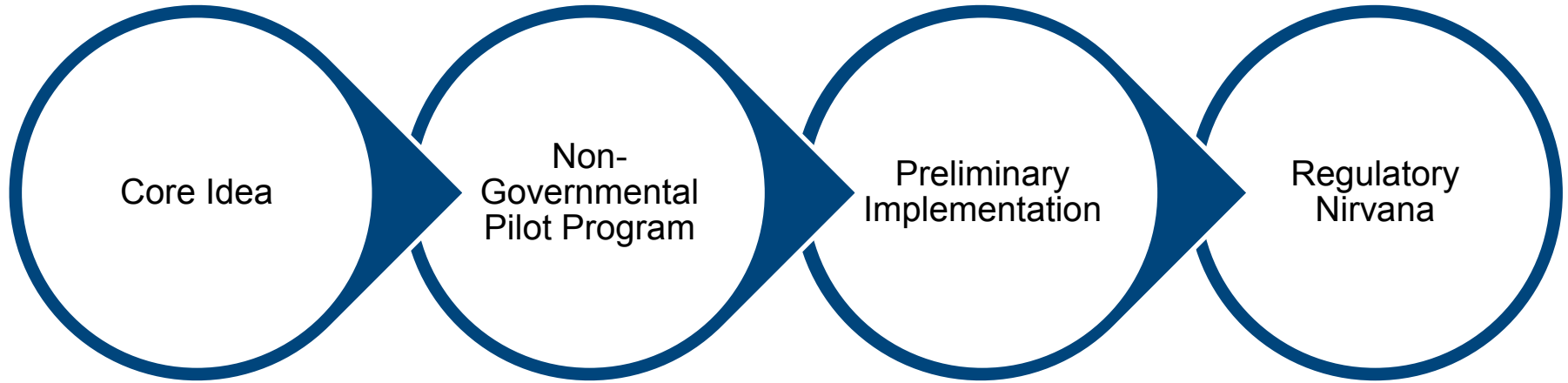
Regulator and
Expert Group set
out goals

Regulated entities
create algorithms

Regulated entities
analyze and house
the data

Regulated entities
create independent
auditor subject to
regulator controls

THE PATH FORWARD



Core Idea

- Data Analytics
- Performance Metrics

Non-Governmental Pilot Program

- Creation of Expert Group
- Targeted inquiry
- Proof of Concept

Preliminary Implementation

- Single regulator
- Single regulatory issue
- Safe Harbor framework

Regulatory Nirvana

- Horray!



THOUGHT LEADERS ARE BEGINNING TO EXPLORE INNOVATIVE REGULATORY MODELS

- Democracy: Journal of Ideas publishes a piece by Professor John Mayo, Georgetown University, advocating for a results based approach
- The Milken Institute launches an inquiry into 21st Century Financial Technologies and the toolkit a regulator should use when analyzing these technologies
- Eurocontrol (a European regulatory body focused on air traffic management) has adopted a "performance scheme for air navigation services," monitoring and measuring performance against targets in the four areas of safety, environment, capacity and cost-efficiency



THANK YOU

Regulation is itself a business that is primed for advancement.

The key is to apply 21st Century data-enhanced models to “disrupt” regulation in the positive way innovators disrupt other businesses.

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