Finance: This time it’s really different!

Demand creates its own supply

Prof. Daniel Tsiddon, Founder & GP - Viola Fintech

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Technology impacts both the demand and the supply for FinTech

- Modern Technology impacts on the nature of growth, (in)equality, and human interactions. Thus, it generates new demands from the financial sector.

- New technologies not only allow for the development of FinTech, but are responsible in a **big way,** for the demand for FinTech(s).

- FinTech constitutes a lot more than "cool apps", and is not merely a "**face**(book)-**lifting**" of a battered financial system either.

  It is an **important segment** of the current technological revolution.

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Example 1: Growth shifts the equilibrium in asset markets

- Modern technology, with its **HUGE returns to scale**, demands less capital.
- **Technologies extend life**. As post work-life expenditures increase, so do savings.

Demand Supply

➔ **Low rates are here to stay**

*Modern technology calls on FinTech to find novel ways for **wealth management** in the same way it calls to finance **residential real estate** from a very different perspective (hedge against "old age" consumption) etc.*

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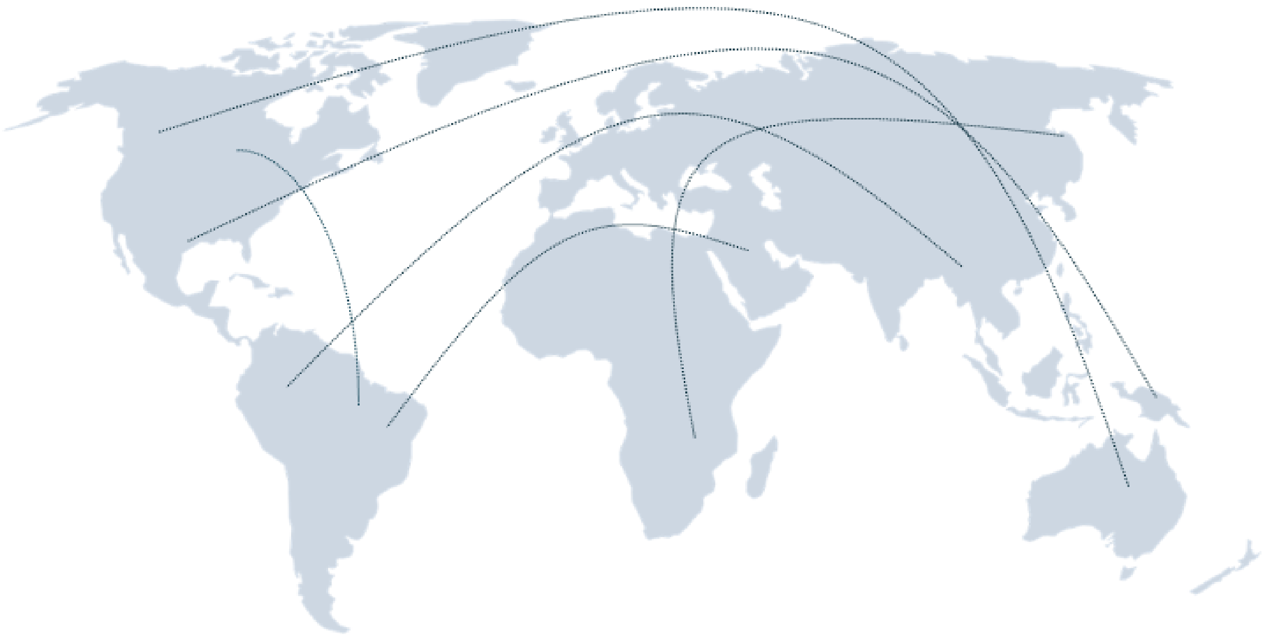
Example 2: Accessibility/equality of opportunities generate new demands

Migration, universal and transferable technologies, and the resulting rise of trade in services - all push for equality and for equality of opportunities, **thus boosting** the demand for new financial services.

Modern technology calls on FinTech to support ***migration, guest working, etc.*** *just as it calls for finding new ways to finance the adoption of new technologies and facilitate trade between* ***small sized firms***.



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Example 3: Rising inequality generates its own financial needs

- **Ability to handle** technological change is rare. Thus, inventions increase inequality. Moreover, **strong increasing returns** and **huge network externalities**, generate a “winner takes (almost) all” economy to further boost inequality.

- The fact that modern technology made inequality both transparent and real-time-visible, feeds back into both **social norms** and the legal system.

*Based on real-time visibility, and conforming with new social norms**,** FinTech is called on to narrow **widening financial arbitrages and push for financial inclusion,** thus mitigating inequality.*

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Growth, equality and inequality are all pushing the financial system to change

- The different components of growth and (in)equality, stand both as challenges and as great opportunities for Tech in the financial system (FinTech).

- These drastic changes, together with newly available technologies, ensure that the financial system will change.

This holds true whether one believes the system was perfectly built to fit the past 20 years or whether it failed big time.

Consequently, top challenges of today's financial system are:

Not enough financial inclusion:

- **Developed world**: Low income groups; SME
- **Less developed world:** Geographies;
  Low income groups (majority of the population)

Not enough liquidity:

Most obvious: Payments

Obvious: Mortgages, commercial real-estate; debt and equity

Less obvious: Security lending

Lack of precision:

Impersonal, weak identification, missing individual taste/attitude towards risk, etc.
Neglecting small business opportunities and needs

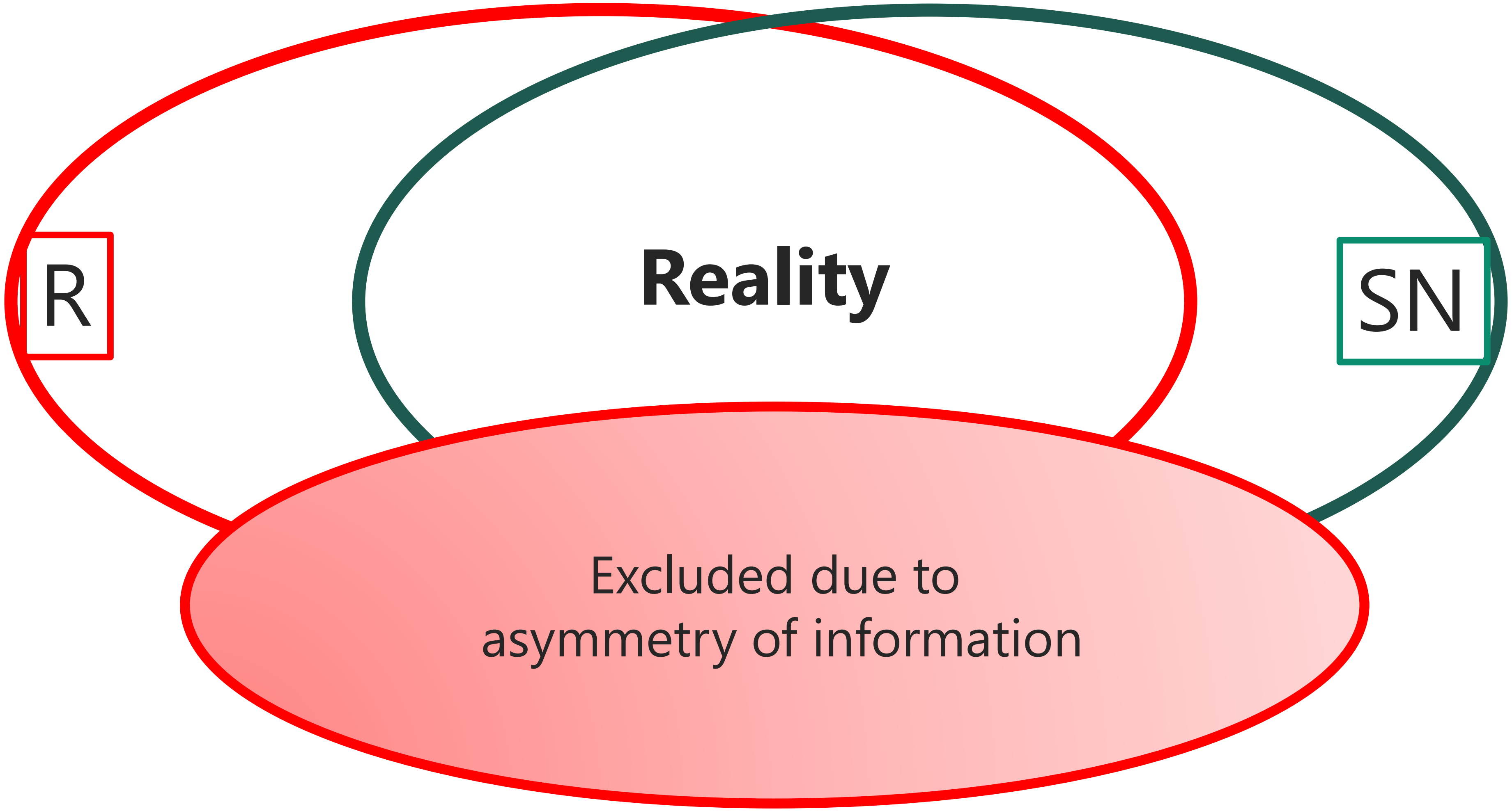
The toolkit FinTechs use to bridge over these troubled waters

- **Efficiency** (cloud computing, open source)
- **Connectivity**, smartphones and other sensors;
  identification and location detection
- "Tons" of recorded **data** (the sunny side of regulatory demand)
- **Real time**
- **Exact inference**: A.I and automated learning of the environment; "numbers" "words" and "images"

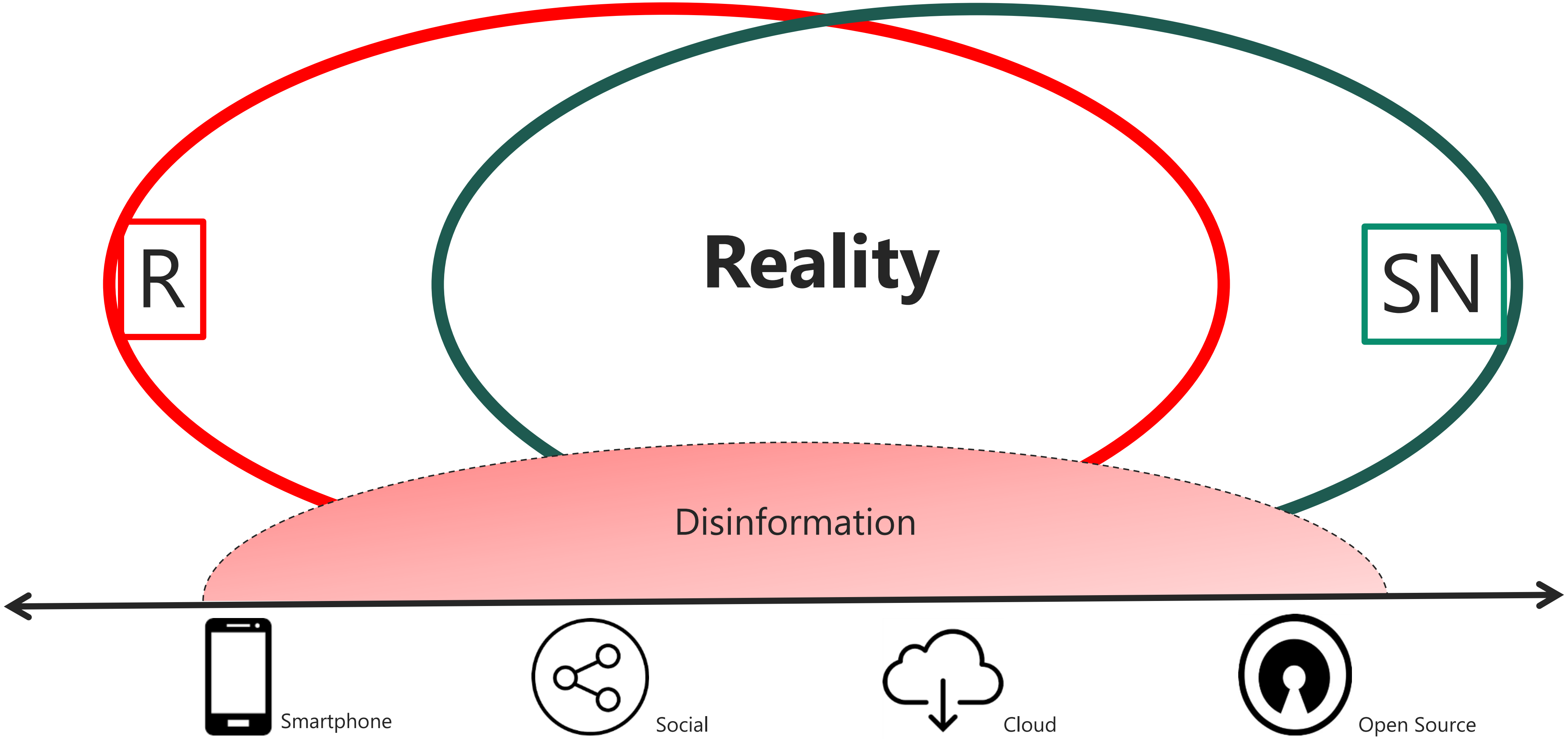
The constraints technology face when it comes to tackle these challenges

- At the foundation of almost each case of exclusion or illiquidity, there is some form of **asymmetry of information.** Furthermore, financial estrangement and the lack of liquidity are reinforced by:
  - Low levels of trust, law enforcement, business ethics, mixed at times with racism, chauvinism, and its daily-newborn “derivatives” (**SN**)
  - Regulatory demands such as KYC / AML especially when reinforced by the desire to use the law to its extreme on the financial system. (**R**)
- **Machines cannot change people** (yet?) **and do not stage the regulatory environment.**
- **Moral hazard** and **adverse selection** will not disappear with the scream “fintech, fintech”.
- **Solutions must conform with reality.**

The Opportunity Set



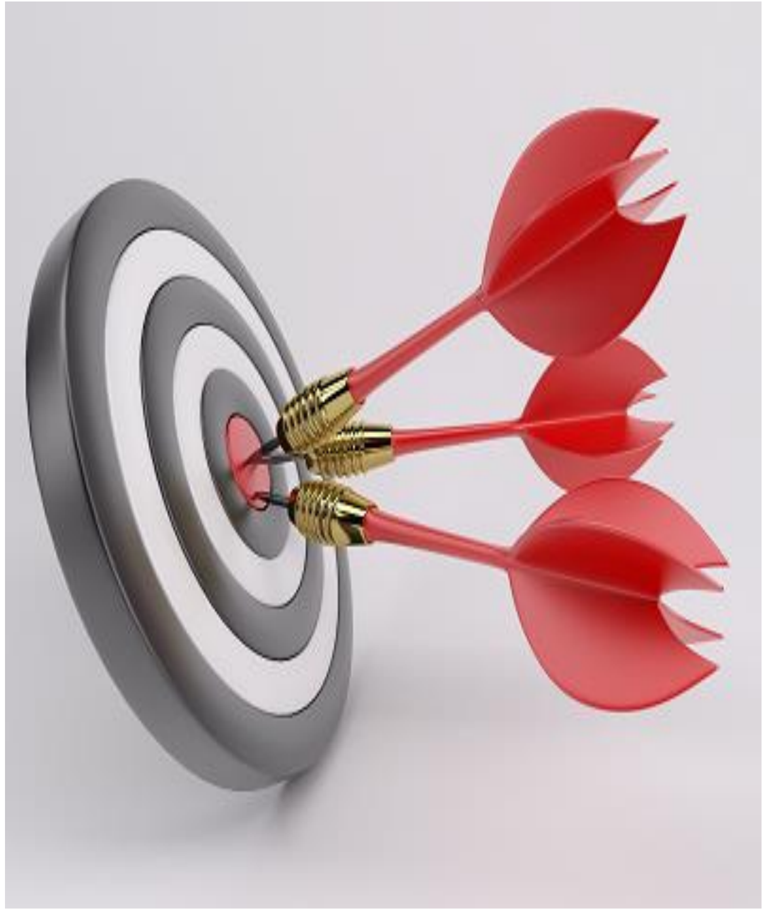
The Opportunity Set and the pillars it stands on



Key drivers to improve precision

Individuals and businesses:

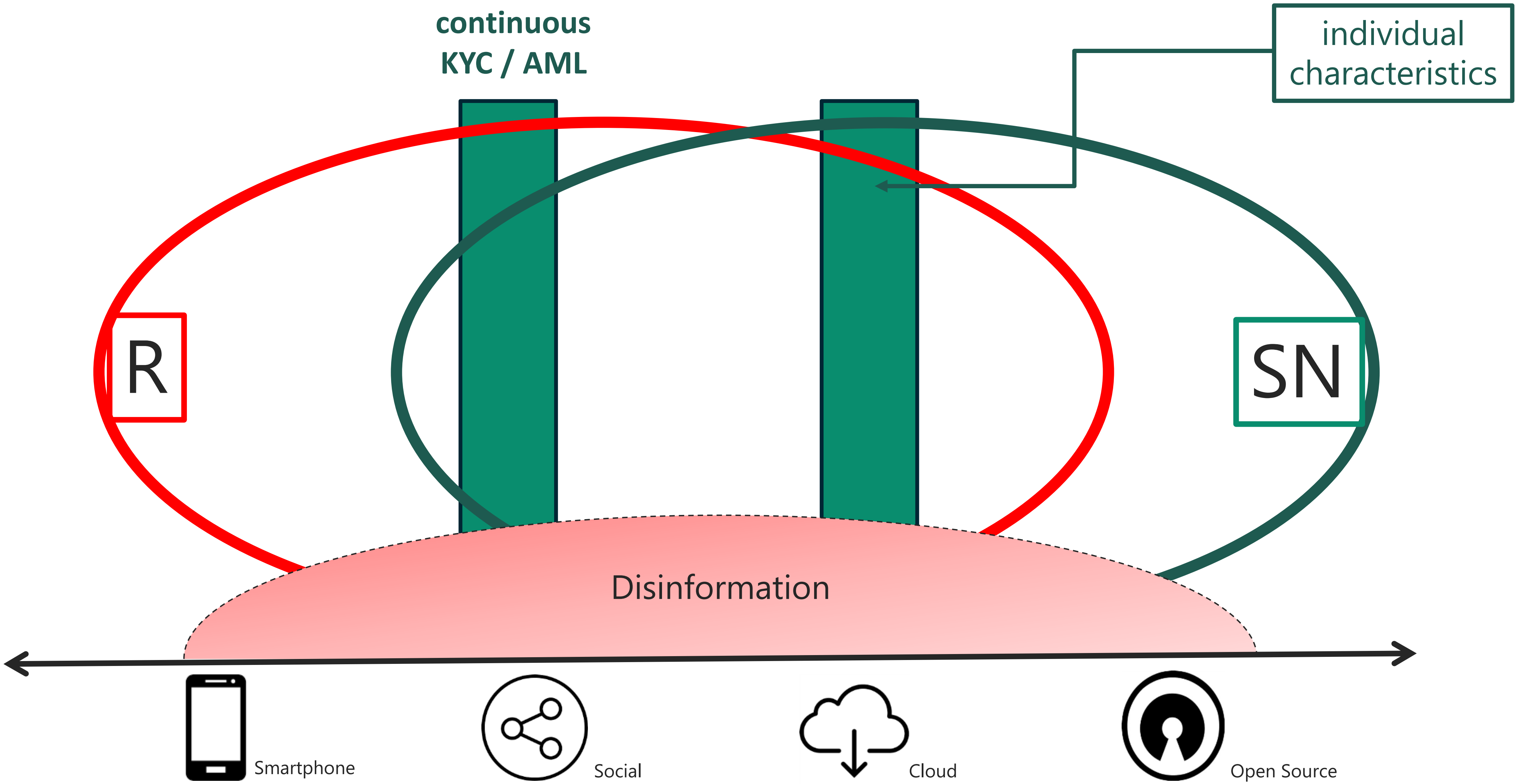
- **Continuous identification** (KYC/AML)
- Directly measure **individual characteristics** such as attitude towards risk, ambiguity, time preference, etc.
- Learn **individual behavior**, actions and hold-backs
- Infer from the above needs and demands to come with the right offer at the right time and place using the right mode of communication (right language).



Markets:

Identify the dynamics of matching and aggregation

A precision solution



Key drivers to combat illiquidity and exclusion

- ***Liquidity*** increases with the increase of the **number of participants**
  - Most times diversity of opinions trumps “herd behavior”
- ***Liquidity*** increases with the **speed** actions take
  - Information asymmetry grows over time when actions cannot be executed
- ***Liquidity*** increases when risk is shared/sold in a way that reduces conflicts among its owners
- When one side holds too much bargaining power, greed deters liquidity
  - Its undoing is called (misleadingly) as **democratization**

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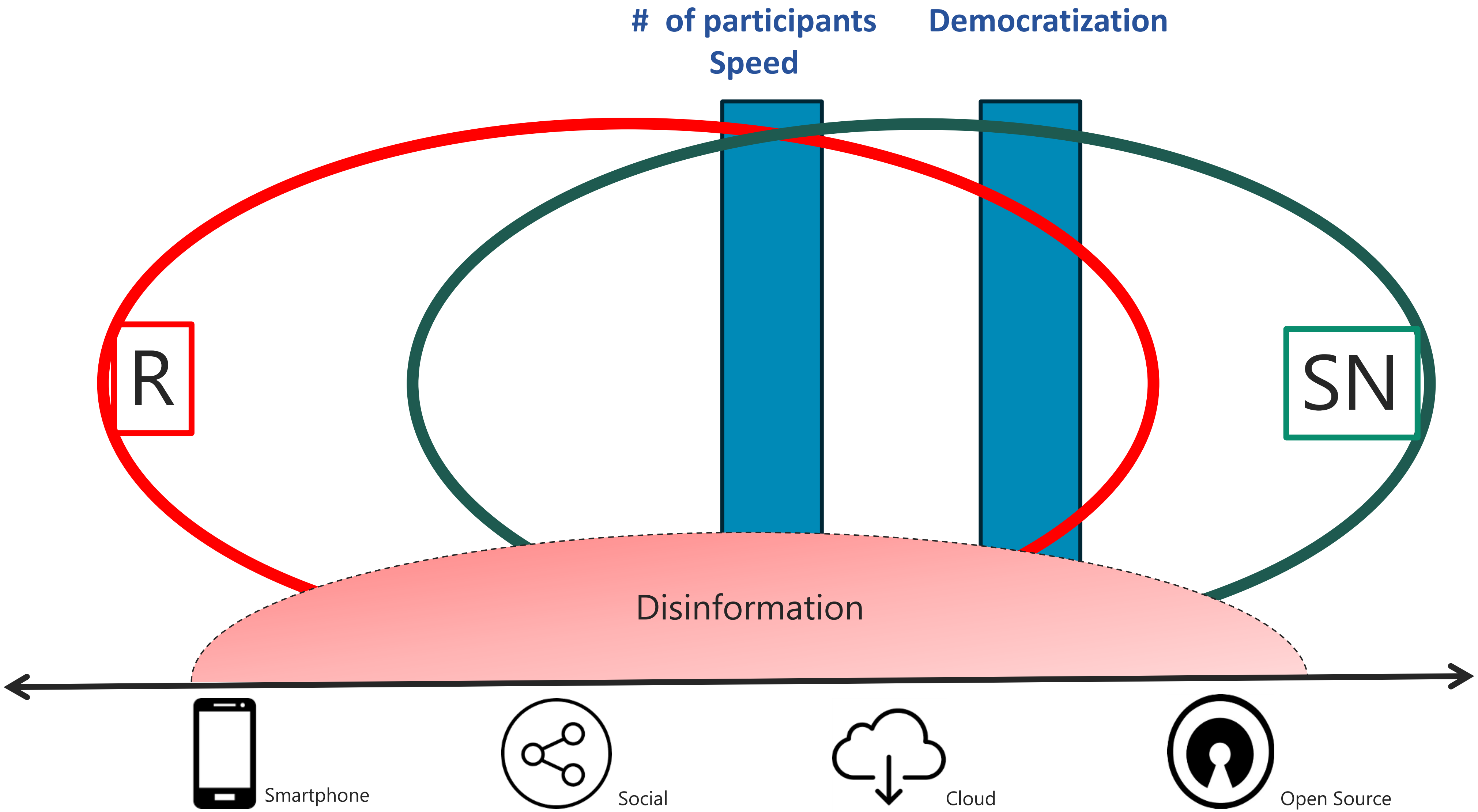
A liquidity solution



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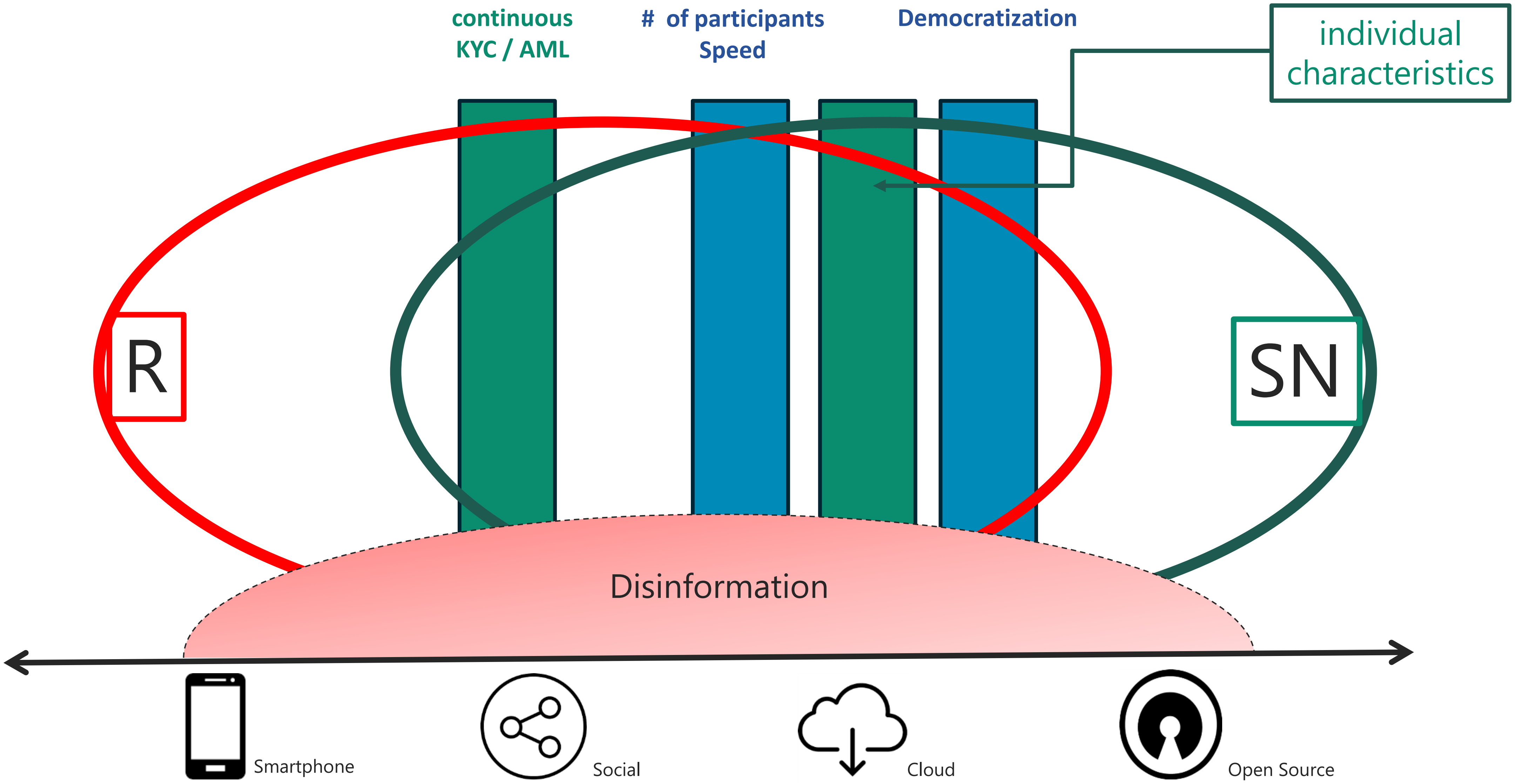
A FinTech solution



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THANK YOU

Prof. Daniel Tsiddon
danielt@violafintech.com