“CLIMATE BLOCKCHAIN”

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DISTRIBUTED LEDGER DATABASE

Shared top-layer data ownership

“Unsilo”

CONFIGURABILITY

e.g. privacy

Algorithmic surveillance

Tokenized incentives and reputation

Integrated intelligent systems

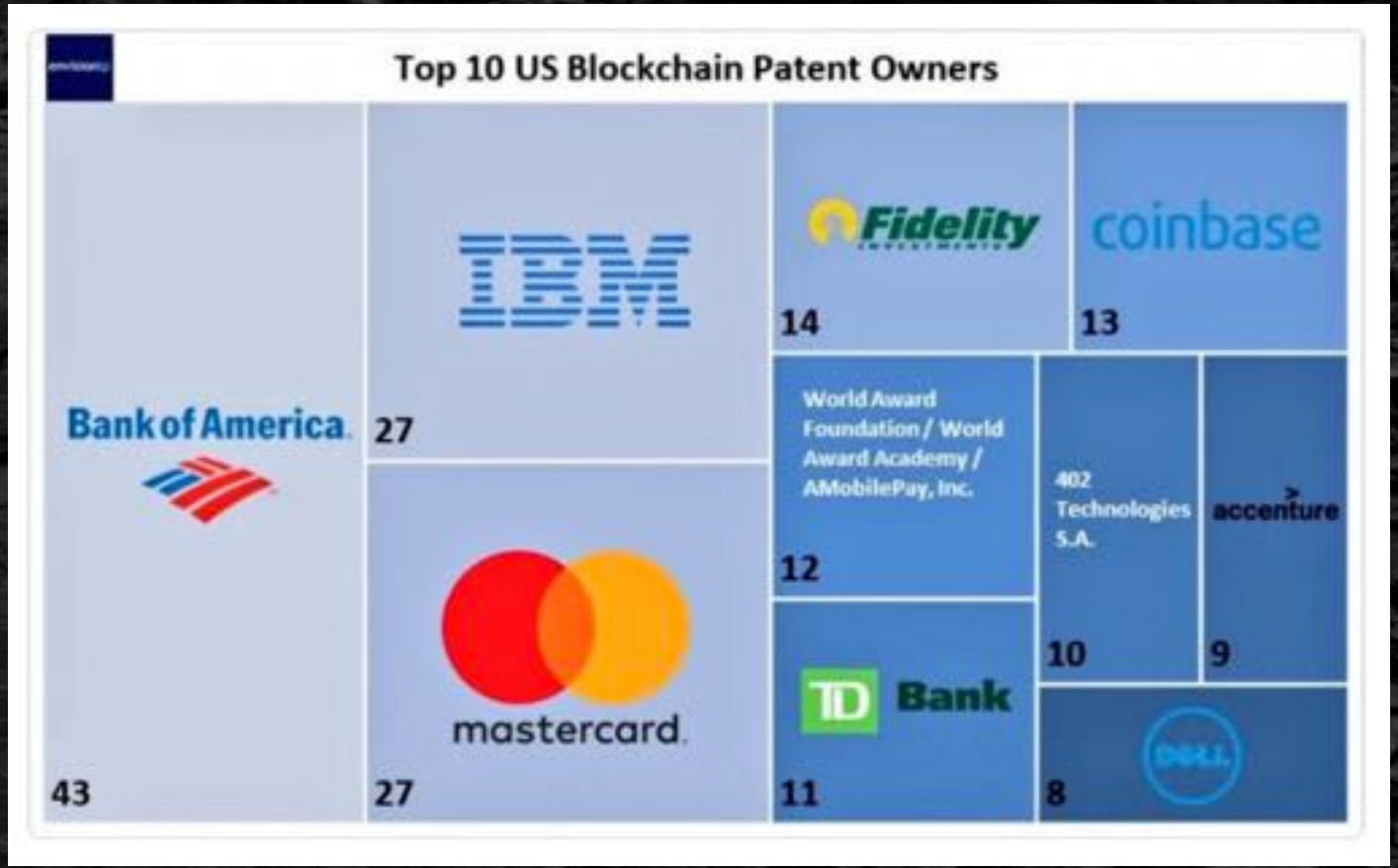
AUTONOMY


Self-governing ecosystems
Shared economy principles
Grassroots democracy

CENTRALIZATION RISKS

Hypothesis (Rule of Three and Four): *"A stable competitive market never has more than three significant competitors, the largest of which has no more than four times the market share of the smallest."* (Bruce Henderson, 1976)

Example (Market Capitalization of the Top3 cryptos on May 9th, 2018): (1) Bitcoin $158B; (2) Ethereum $74B; (3) Ripple $31B


Top 10 US Blockchain Patent Owners
Bank of America
43
IBM
27
mastercard
27
Fidelity
14
coinbase
13
World Award Foundation / World Award Academy / AMobilePay, Inc.
12
402 Technologies S.A.
10
accenture
9
TD Bank
11
DELL
8

DATA QUALITY (1/3)

Asynchronous observations

Accurate time-stamping

TRANSPARENCY (2/3)

Wide information dissemination

Easily verifiable processes

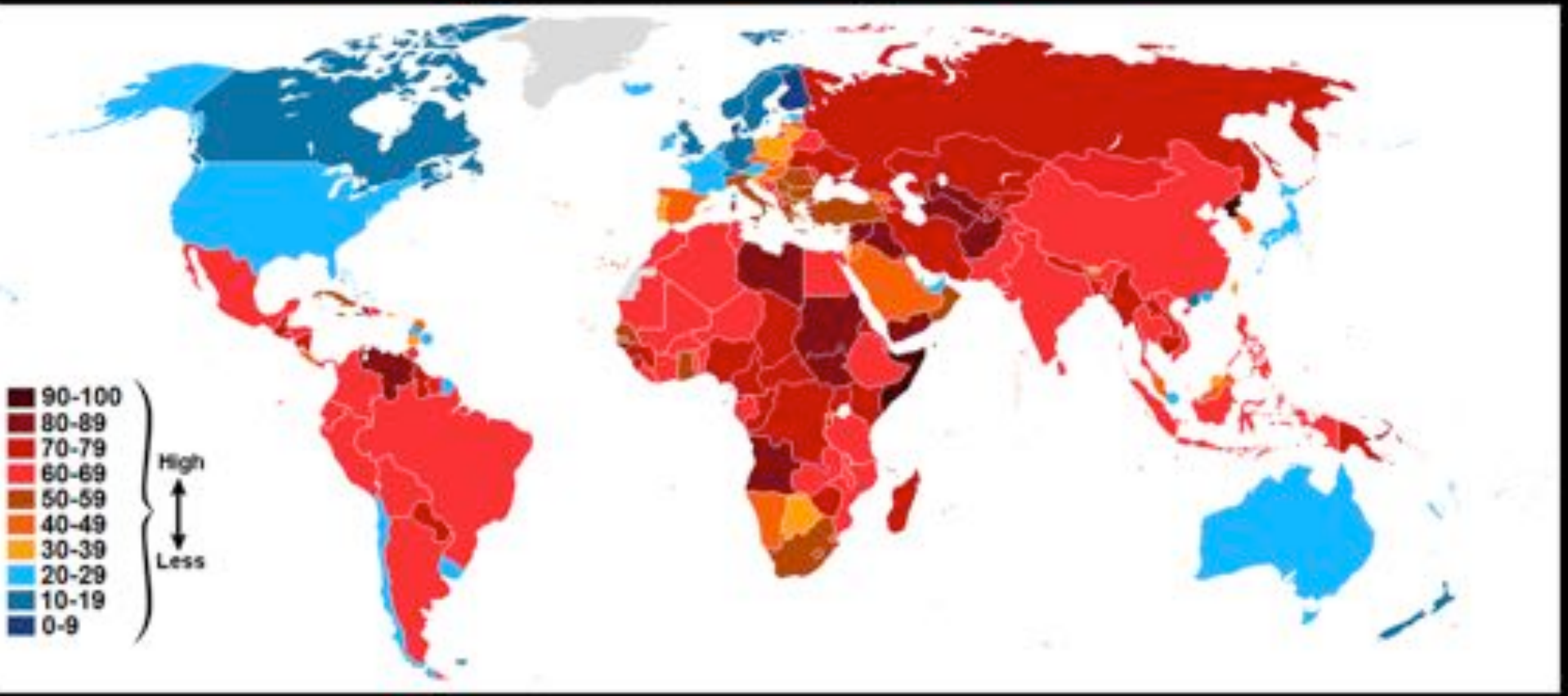
TRUST (3/3)

Immutable data

>> Increased “market efficiency”

(EMH >> no information asymmetry)

WHEN DOES BLOCKCHAIN WORK?



A world map of the 2015 Corruption Perceptions Index by Transparency International which measures *"the degree to which corruption is perceived to exist among public officials and politicians".* -Wikimedia

SMARTPHONE USERS

China	1,388,233,000	51.7%	**717,310,000**
India	1,342,513,000	22.4%	**300,124,000**
United States	326,474,000	69.3%	**226,289,000**
Brazil	211,243,000	37.7%	**79,578,000**
Russian Federation	143,375,000	54.7%	**78,364,000**
Japan	126,045,000	50.1%	**63,089,000**
Germany	80,636,000	68.8%	**55,492,000**
Indonesia	263,510,000	20.7%	**54,494,000**
Mexico	130,223,000	40.7%	**52,993,000**
United Kingdom	65,511,000	68.6%	**44,953,000**

CLIMATE DATA MANAGEMENT

"Long-term, high-quality and reliable climate instrumental time series are key information required in undertaking robust and consistent assessments in order to better understand, detect, predict and respond to global climate variability and change." (World Met. Org.)

http://www.wmo.int/pages/prog/wcp/wcdmp/CDM_3.php

BENEFIT AREAS

Climate monitoring and risk mngmnt

Climate studies and predictions

Calibration of satellite data

"The use of climate data is becoming more sophisticated, meaning that more data are required more frequently and rapidly and often combined with other environmental data to inform decisions…"

(Martin et al. 2015, *Meteorol. Appl.* **22**)

https://rmets.onlinelibrary.wiley.com/doi/epdf/10.1002/met.1461

“This creates added complications in that near-real time high frequency observations are only feasible using automatic electronic instrumentation…” (Ibid.)

"National meteorological services … have particular challenges owing to their small operational budgets, such as difficulty in maintaining suitable expertise, the large quantity of data that still remain only on paper records, and the requirement that data management solutions be low cost and sustainable." (Ibid.)

“Over the years, many computer backup files were damaged through disk crashes, PC failures and so on, and the loss of historical electronic data was notable in countries around the world… Without such efforts, the electronic data would have been lost permanently.” (Ibid.)

Links

“Blockchain ClimateCup Round Table” (https://www.cigionline.org/sites/default/files/documents/2017_Toronto_ClimateCupWEB-final1.pdf)

“What Blockchain Means for the Sharing Economy” https://hbr.org/2017/03/what-blockchain-means-for-the-sharing-economy

“UN Supports Blockchain Technology for Climate Action” (https://unfccc.int/news/un-supports-blockchain-technology-for-climate-action)

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