

# FINANCIAL INNOVATION

Technology is changing the way firms interact with customers, complete transactions and process data. And as millennials enter the investment scene, they're bringing their predilection for fast, mobile, low-cost services along with them.

## SIGNS OF THE TIMES

**Buyside** firms are using AI to capture consumer patterns and insights.

"**Robots**" backed by **AI** are interacting with customers online and on the phone.

**Distributed ledgers** promise smart contracts, instant settlement and failsafe security.

**Data Mining** is helping businesses identify sales and manage risks more efficiently.

## PARADOXES OF INNOVATION

**Established firms** are challenged by **not-yet-established tech**.

**Firms won't use** innovation till it's widespread, but it can't be widespread **till they use it**.

For the same innovation: **small firms** need shorter R&D times; **large firms**, longer ones.

With rapid growth, market share is **valuable to get** but **easy to lose**.

## RISKS OF DISENFRANCHISEMENT

Online content covered by just 10 languages **80%**

World population without internet access **52%**

UK households over 65 without internet **39%**

People who live outside 3G coverage **24%**

Proportion of adults considered illiterate **15%**

Population living below the global poverty line **13%**

## REGULATORS ON BALANCE

Regulators must **ensure** new tech is compliant but also **encourage** innovation.

Sandboxes allow firms to **test** products without any risk to the consumer and enable regulators to better **understand** them.

Innovation hubs and tech-sprints enable regulators and developers to **cooperate** while helping to **promote** innovation.

## MACHINES ON THE RISE

**Colossus** is first programmable computer (1943).

**Artificial intelligence** is coined (1955).

**Moore's law** on transistor density is born (1965).

**World wide web** comes on line (1991).

**IBM's Deep Blue** beats Kasparov (1997).

**IBM's Watson** wins gameshow Jeopardy (2011).

**Watson** starts to learn regulation following IBM acquisition of Promontory Financial Group (2016).

**Machine-executable regulation** proof of concept developed by FCA and BoE (2017).

## CRYPTO COMES OF AGE

**1872** First encrypted wire transfers.

**1983** Anonymous e-money conceived.

**1998** Distributed ledger currency proposed.

**2008** Bitcoin white paper published.

**2010** Two pizzas ordered for 10,000 bitcoins.

**2017** Value of 1 bitcoin peaks at US\$19,783.21.

**2018** Market cap hits US\$813bn across 1.8K coin types.

## FAILURE OF TECHNOLOGY

**Criminals** exploiting new tech to finance their activities.

**Firm security** breaches due to ineffective cybersecurity.

**Data stolen** or lost to inadequate data protection.

**Infrastructure failures** due to inadequate product testing or out-of-date apps or OS.



As emerging tech reshapes the financial world, firms, regulators and consumers all face risks and opportunities.



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