

Why we need regulatory sandbox

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Regulatory sandbox - United Nations Secretary-General's Special Advocate for Inclusive Finance for Development

- A regulatory sandbox is a regulatory approach, that allows live, time-bound testing of innovations under a regulator's oversight. Novel financial products, technologies, and business models can be tested under a set of rules, supervision requirements, and appropriate safeguards;
- A sandbox creates a conducive and contained space where incumbents and challengers experiment with innovations at the edge or even outside of the existing regulatory framework;
- A regulatory sandbox brings the cost of innovation down, reduces barriers to entry, and allows regulators to collect important insights before deciding if further regulatory action is necessary;

Regulatory sandbox

- A successful test may result in several outcomes, including full-fledged or tailored authorization of the innovation, changes in regulation, or a cease-and-desist order;
- The first regulatory sandbox was launched in 2015 in the U.K. and generated great interest from regulators and innovators around the world. At the beginning of 2018, there were more than 20 jurisdictions actively implementing or exploring the concept.

How does it work in practice?

- The concept of the regulatory sandbox keeps evolving into distinct models determined by several factors. A significant common feature is that a regulatory sandbox facilitates the necessary dialogue between market participants and regulators to inform regulatory actions that strike the right balance between facilitating innovation and mitigating (new) risks. The key differences between models concern eligibility criteria, safeguards and testing requirements, organizational structure, and operational details (e.g., testing in cohorts vs. rolling);
- However, regulatory sandboxes are new and neither their utility nor their impact on financial inclusion have been sufficiently proven yet. The impact of a regulatory sandbox likely varies depending on multiple factors: legal environment (e.g. common law vs. civil law jurisdictions), regulatory framework, and openness to innovation.

What can governments do to promote regulatory sandboxes?

- Governments should give thoughtful consideration to whether the innovations being tested in a sandbox have the potential to improve access to and usage of financial services by the poor. When considering a regulatory sandbox, regulators should clearly define the objectives and the challenges that need to be addressed. They also need to dedicate sufficient resources to support implementation. It is crucial to engage the industry early in the process to get its perspective and secure buy-in;
- While there is no universal blueprint or set of best practices to follow, regulators can consult publicly available resources. Those include jurisdictions with a regulatory sandbox in place, international development organizations, other regulators through peer learning platforms for financial inclusion policymaking, and private consulting firms;

What can governments do to promote regulatory sandboxes?

- A sandbox is not a panacea for all regulatory challenges brought about by innovation, nor is it the only solution. Other options include a test-and-learn approach to try out new ideas under ad hoc circumstances in a live environment (e.g., agent banking in Indonesia, Kenya, Philippines, Rwanda) or a wait-and-see strategy that allows for informal monitoring of new trends before any formal intervention is performed (e.g., P2P lending, cryptocurrencies). Compared to those approaches, regulatory sandboxes are more structured, objective driven, and publicized, but also more formalistic and resource-intensive.

Riset dasar vs riset terapan

- Riset dasar : mencari solusi persoalan masa depan (yang belum diketahui);
- Riset terapan : mencari solusi persoalan masa lalu (yang sudah diketahui);
- Riset dasar menghasilkan perkembangan teknologi yang kemudian menghasilkan industri baru, meningkatkan standar kehidupan global, menciptakan kapital intelektual dan human capital, serta *enriches society in unexpected ways*.

Prinsip riset dasar

- Produk dan metoda baru tidak muncul sendiri, akan tetapi berasal dari adanya prinsip dan konsep baru yang diperoleh dari riset dasar yang intensif dan berkepanjangan;
- Riset dasar merupakan pemacu kemajuan teknologi;
- Riset dasar akan mampu mensejahterakan masyarakat jika memperoleh dukungan kepastian pendanaan jangka panjang yang fleksibel;
- Riset dasar mutu tinggi dilakukan dengan mengedepankan integritas, obyektivitas, keterbukaan, kejujuran, keadilan, dan akuntabilitas.

Riset dan pengembangan (R&D)

- Para ekonom memperkirakan *social rate of return* dari investasi R&D antara 30% - 100%, sedangkan *rate of return* dari investasi riset dasar sulit dihitung namun dari pengalaman historis dan beberapa contoh spesifik angkanya sangat tinggi;
- Hampir semua teknologi maju adalah hasil dari riset dasar.

Dampak langsung riset dasar

- Microprocessor, laser, dan nanotechnology berkembang karena ditemukannya teori quantum tahun 1900 oleh Max Planc;
- Saat ini 30% GNP negara maju berasal dari invensi yang dimungkinkan karena quantum mechanics;
- Teknologi mutakhir magnet yang digunakan untuk kereta Maglev dan alat diagnosa MRI berawal dari teori superkonduktivitas yang ditemukan tahun 1911 oleh Heike Onnes;
- Akhir tahun 1960 Hamilton Smith menemukan enzim yang mampu memilah DNA, sejak itu bioteknologi berkembang sangat pesat dan menghasilkan revenue untuk USA sebesar \$324 milyar tahun 2012.

Dampak tidak langsung riset dasar

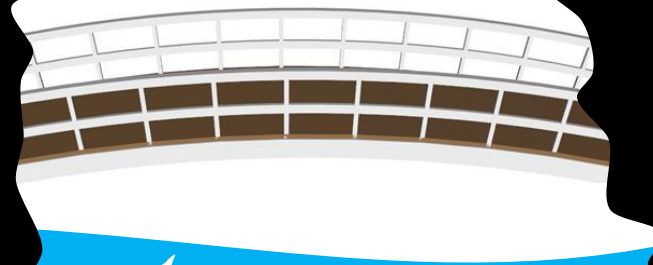
- Munculnya *World Wide Web (www)* tahun 1989 karena pengembangan teknologi komunikasi untuk ribuan ahli fisika teori yang bekerja di CERN Particle Accelerator Laboratory;
- Salah satu dampak signifikan dari riset dasar adalah muncul dan berkembang pesatnya *start-up companies*, mereka merasakan kekuatan teknologi baru yang mampu menghasilkan pertumbuhan ekonomi;
- European Commission memperkirakan bahwa penambahan 10% investasi R&D akan menghasilkan pertumbuhan GDP sebesar 5 – 7 kali besarnya investasi;
- Berdasarkan studi Battelle and Life Technologies Foundation, The Human Genome Project menghasilkan revenue sebesar satu triliun US dollar dan 4,3 juta lapangan pekerjaan selama kurun waktu 1988 – 2013, biaya proyek tersebut adalah \$3,8 milyar.

Proof of Concept

“Valley of Death”



Proof of Concept



Proof of Concept in TTOs

TTO PoC Support



Mentorship

IP Protection

Business
Planning

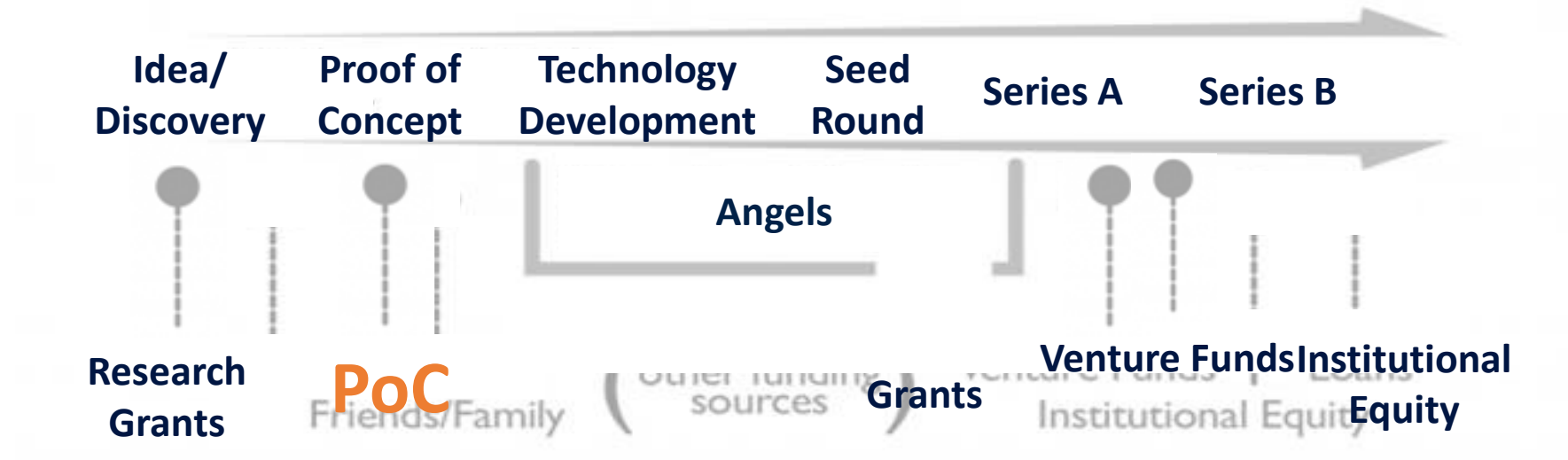
Industry Team Construction
Insight

Market Failure?

50% Commercialised

Regulatory Sandbox Seminar

Current Proof of Concept Activity



Public Sector?

Private Sector?

General unavailability of private investments
High transaction costs
High risk
Difficult to evaluate opportunity