Ecosystem Maturity Map

Diagnosing an ecosystem's health
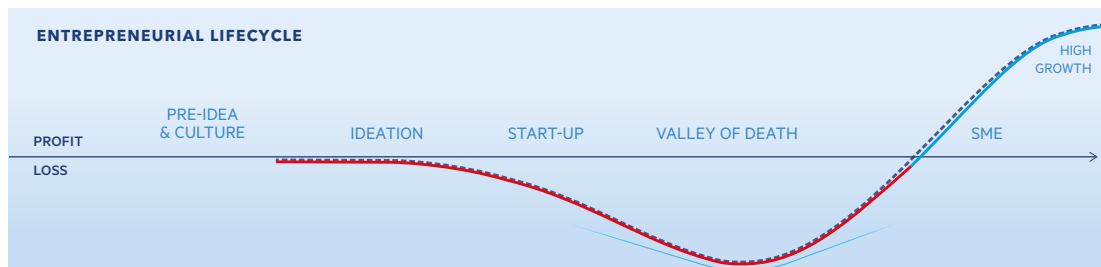
Section A:
The Ecosystem Maturity Map

Every community needs to have a favorable environment in which innovators can create solutions to address the community's problems. The performance of this environment varies a lot depending on the absence or presence of the essential functions (or jobs-to be-done) that nurture innovation.

An ideal environment has working activities supporting innovators throughout their journey to create solutions addressing the community challenges. Such an environment, is considered to be **mature.**

One of the key challenges facing the environment for innovators is insufficient collaboration and the lack of synergistic initiatives from the stakeholders.

To be able to take concrete steps in solving an environment challenge, one needs to understand current activities of the stakeholders, and how they collaborate and interact with one another to deliver each of the essential functions. Therefore, ITU developed the **Ecosystem Maturity Map** to help diagnose and ecosystem health towards an ideal maturity level .

ENTREPRENEURIAL LIFECYCLE

| ENTREPRENEURIAL PHASE | | | | |
STAKEHOLDERS	PRE-IDEA & CULTURE	IDEATION	START-UP	VALLEY OF DEATH	SME
ENTREPRENEURS	ENTREPRENEURIAL INTEREST	ENGAGE WITH PROBLEMS	DEVELOP BUSINESS MODELS	BUILD COLLABORATION	EXPAND
FINANCE	RESEARCH FUNDING	SEED FUNDING	ANGEL INVESTMENT	VENTURE CAPITAL	BUSINESS FINANCE & LOANS
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CORPPORATE	SUCCESS STORIES	RESEARCH PROGRAMS	LAB PROGRAMS	B2B & SUPPORT SERVICES	SKILL TRAINING PROGRAMS
ACADEMIA	ENTREPRENEUR COMMUNITY	BASIC RESEARCH	SPIN OFFS	SOFT SKILL TRAININGS	HUMAN CAPITAL
GOVERNMENT	VISION & STRATEGY	IP & R&D SUPPORT	TAX SUPPORT	PUBLIC PROCUREMENT	TRADE POLICY

The Ecosystem Maturity Map framework

This tool helps map the roles and actions of stakeholders at each stage of the entrepreneurial life-cycle. It is adapted from the "Valley of Death". The curve in this lifecycle, outlines each step of the entrepreneurial journey, emphasizing on the gap between developments of a new concept and when it becomes profitable, which is where many ICT-centric innovation fail.

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Essential information

Entrepreneurs are the primary drivers of businesses as they see opportunity that they can leverage to create companies. Every business brings with it a unique path from the conception of idea (the opportunity) that it wants to address, to its maturity (the peak of the business) and eventually its decline.

The **entrepreneurial life cycle** therefore depicts the stages that entrepreneurs go through to implement their ideas by creating startups which then grow into small, medium businesses or high growth firms. However, the growth of most businesses are not constant. With time, the growth will eventually decline.

This is why, particular attention must be paid to the early stages of this journey, in order to keep the business competitive in an increasingly open economy. Otherwise, the business will remain embryonic due to global competitiveness- that is especially pertinent to high tech companies.

Valley of death: The period early in the development of a business where the amount invested in developing the business outweighs its current revenue. Businesses need continuous investment and other support and often fail during this time.

To understand the process that creates an innovation driven economy, **the entrepreneurial life-cycle** helps explain how innovators can move from conceptualizing ideas to creating small and medium businesses, high growth firms and ultimately world class export. At each stage of this journey, stakeholders in the ecosystem have a role to play.

Infobox

Stakeholders and their role in an ecosystem

Entrepreneurs generally need access to resources, network and favorable policies at every stage of the entrepreneurial life cycle. They need cash, grants, favorable loans, contacts, help in defining their solutions, access to corporations and decision makers. They also need great programs to give skills at academia or specialized school, access to cutting edge labs, and data.

Governments are tasked to deliver services to citizens, reduce bureaucracy and fight corruption. They need to help create better infrastructure, strong research and development, more success stories, increase tax revenue, reduce the gray market, and attract investment, among others. Government needs to make citizens happy.

Finance captures the financiers' needs in an ecosystem. The needs can be different depending on the stakeholder in the group. For example, investors need taxation incentive, stable laws, fast cheap and reliable legal procedures; while central banks need to reduce systemic risk and create favorable macro conditions. On the other hand, venture capitalist need a good portfolio of startups, favorable regulation, and exit strategies such as good stock market, private equity or corporate buyers.

Academia conduct effective basic and applied research, offer industry aligned skills, access to network of academics, corporate and entrepreneurs to commercialize research, deliver evidence based pedagogy, incentives and favorable conditions for teaching and research, among others.

Corporate needs to access to advance technological research, sensible ICT policies, clear regulations, new business maps and markets, increased sales, cost saving and automation measures, among others.

Entrepreneurial Support needs may include, funding for their activities, increase deal flow, good programs for the ecosystem, access to other ecosystems, and success stories among others.

To understand how the role and action of each stakeholder group impact the innovation journey, the following stages have been defined:

Pre-idea:

In this stage, key actors plant the seeds of support in the innovation ecosystem.

The government provides an overarching vision that other stakeholders can embrace. **Entrepreneurs** start to explore innovation while **entrepreneurial support** institutions cultivate their interest by fostering an entrepreneurial culture and hosting gatherings. At the same time, **academia** also nurtures this culture by providing an environment for young entrepreneurs to test their ideas. Meanwhile, the **financers** ensure that basic research and prototyping can be done, which eventually leads to successful entrepreneurs that inspire, mentor, and fund new entrepreneurs.

Ideation:

This is the stage at which innovations are developed but have not yet been incorporated as businesses.

Again, the **government** creates a policy environment that encourages research and defends intellectual property rights. **Entrepreneurial support** institutions host idea generation activities, such as hackathons, to help entrepreneurs identify credible problems to solve. Concurrently, **academia** contribute by producing basic research that identify critical needs. **Entrepreneurs** then begin to engage with these problems, the solutions they can commercialize. **Investors** deploy small amounts of risk capital to support these entrepreneurs while the corporate acts alongside them initially, experimenting with innovation and potentially disrupting their internal business maps.

Start-up:

In this stage, innovations evolve from concepts into businesses.

Entrepreneurs begin to develop business maps and seek additional funding from early stage investors such as **angel networks** to help their businesses grow.

Entrepreneurial support institutions such as co-working spaces give entrepreneurs access to the community, human capital, and infrastructure to run their ventures. As entrepreneurs seek customers, a transparent and efficient **public procurement system** helps them land contracts. Alongside this activity, large companies launch internal accelerators to insource innovations developed by start-ups, and **academia** supports the commercialization of basic research by entrepreneurs.

Valley of death:

During this challenging stage of development, entrepreneurs need strong support to survive.

As such, **entrepreneurs** will collaborate and share knowledge while Venture Capitalists (VCs) provide financing to help start-ups progress from potential to profitability. To reduce operational costs, start-ups will purchase business to business (B2B) services at a discounted rate from large market-leading companies. Supportive tax policies will also lessen the start-up tax burden. Some start-ups will enter accelerators where they will gain access to mentorship, investors, and other promising start-ups. During this stage, the business skills of entrepreneurs acquired through education or training efforts become critical.

SME:

The velocity of start-up growth increases as they expand rapidly into established business-es, reach steady state or exit through buy-outs or IPOs.

Finding good human capital will become a more significant constraint as start-ups grow. As a result, they will depend on the **corporate** to provide training programs and on **academia** to produce employment-ready graduates. Maturing start-ups will present less risk, giving them access to more traditional sources of financing such as loans and private equity. Ideally, start-ups will continue to expand and eventually return value to investors through an acquisition, buy-out, or Initial Public Offering (IPO). This growth will be supported by access to **international markets** and **investors.** Start-ups will also continue to receive support from community groups such as business associations that represent their interests.

Section B:
How to use the Ecosystem Maturity Map

Time
Up to 2 hours

What you will need

☐ A3 paper

☐ Round and colored stickers (blue, yellow and green)

☐ Markers (black, red)

Steps

1 Thoroughly go through the descriptions of each stage of the Entrepreneurial Lifecycle.

Tip 1 – We recommend using the **Ecosystem Assessment Canvas** to standardise knowledge about the ecosystem before using this tool.

2 Refer to the set of questions in info box on the following page.
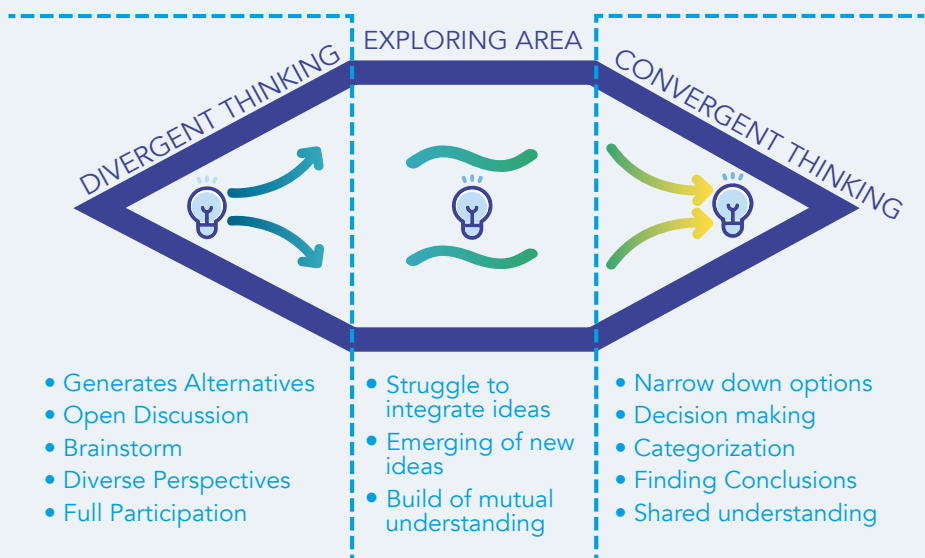
Infobox

ENTREPRENEURIAL PHASE

STAKEHOLDERS	PRE-IDEA & CULTURE	IDEATION	START-UP	VALLEY OF DEATH	SME
ENTREPRENEURS	ENTREPRENEURIAL INTEREST — Is there an interest in becoming an entrepreneur?	PROBLEM DISCOVERY — Are innovators discovering relevant problems to work on?	DEVELOP BUSINESS MODELS — Do entrepreneurs have the skills they need to develop strong business models?	BUILD COLLABORATION — Do entrepreneurs support one another in the ecosystem?	EXPAND & EXIT — Are startups able to expand into high-growth SMEs, go through buy-outs, or IPOs?
FINANCE	RESEARCH FUNDING — Is funding available for innovators to do research?	SEED FUNDING — Is there funding for early stage ideas to develop into startups?	ANGEL INVESTMENT — Is high-risk investment available for early phase entrepreneurs & startups?	VENTURE CAPITAL — Can startups with established growth potential access capital to grow?	BUSINESS FINANCE & LOANS — Are SMEs able to get support through traditional investment and loans?
ENTREPRENEURIAL SUPPORT	GATHERINGS & EVENTS — Are there events that gather, connect & inspire innovators?	HACKATHONS & COMPETITIONS — Can innovators join events to validate or develop their ideas?	COWORKING & SOFT INFRASTRUCTURE — Are there programs for innovators to work together, access resources & knowledge?	ACCELERATORS & INCUBATORS — Are there programs in place to support, guide and scale startups?	BUSINESS ASSOCIATIONS & NETWORKS — Are there associations or chambers that advocate for & support businesses?
CORPPORATE	SUCCESS STORIES — Are successful entrepreneurs known to and working with young innovators?	R&D PROGRAMS — Are private firms engaging in or funding research to support innovation?	INTERNAL INCUBATOR — Are there programs to support & foster innovators, inside or outside the firm?	B2B SERVICES — Does the private sector provide services & support to developing businesses?	SKILL TRAINING PROGRAMS — Are there efforts from private sector to ensure that needed skills are available?
ACADEMIA	ENTREPRENEURIAL INSPIRATION — Are universities providing an environment & community to inspire entrepreneurs?	BASIC RESEARCH — Is basic research being carried out leading to practical innovations?	SPIN OFF FACILITATION — Does a framework exist to support startups based on basic research?	SKILL TRAINING FOR ENTREPRENEURS — Do universities offer trainings in business skills needed by innovators to create startups?	DEVELOP HUMAN CAPITAL — Are graduates leaving universities with the skills needed by innovative businesses?
GOVERNMENT	VISION & STRATEGY — Is the government providing and implementing a clear vision & strategy?	IP & R&D SUPPORT — Is enough done to support research and protect intellectual property?	TAX SUPPORT — Are there provisions or exemptions in the tax code to support entrepreneurship?	PUBLIC PROCUREMENT — Is public procurement supporting innovation without distorting markets?	TRADE & FINANCE POLICY — Are there policies to support investment in and trade by innovative businesses?

3 Answer the questions from the info box on page 6 by brainstorming and analyzing the corresponding stakeholder's needs in the current state of your ecosystem.

💡 **Tip 2 – Divergent and Convergent Thinking**

It is recommended to use divergent and convergent thinking to gather the necessary information to identify your story. The thinking mode is the way the participants are encouraged to reflect throughout the journey. Divergent thinking is similar to 'brainstorming', exploring as many ideas as possible without shutting them down. Convergent thinking is when thinking is narrowed down to a few answers. Use one idea per sticky note in brainstorming sessions.

EXPLORING AREA

DIVERGENT THINKING

CONVERGENT THINKING

- Generates Alternatives
- Open Discussion
- Brainstorm
- Diverse Perspectives
- Full Participation

- Struggle to integrate ideas
- Emerging of new ideas
- Build of mutual understanding

- Narrow down options
- Decision making
- Categorization
- Finding Conclusions
- Shared understanding

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4 Rate each activity depending on the level of impact.
To rate them use :

green for activities, which presence is strong,
yellow for activities that are weak or insufficient and
red for activities that are missing.

5 Once you finish rating, get all the groups together to discuss and fill out the tool on the knowledge wall by agreeing on the ratings (**green**, **yellow** and **red**).

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Tip 3 - Large group structure and knowledge wall

In a knowledge wall, consolidate one common **Ecosystem Maturity Map** between all group. It is recommended that large group are split in manageable size, but the facilitator will need to consolidate all groups information into one canvas through active moderation when all groups finish their work. Note that correct representation of all stakeholders groups are needed in the empathy exercise because they can more accurately share the status of each indicator.

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Tip 4 - Amplify good practices

Ecosystem needs programs, resources, policies, communities, and networks as essential ingredients to come together. These essential ingredients are linked together as processes which drive action. There are good practices as well as bad practices in every ecosystem.

Bad practices (rated using **red** color) stifle innovation and should be avoided.

Good practices (rated using **green** color):
- Allow innovators to unlock opportunities,
- Optimize resources
- Enable ICT innovations to reach market and
- Create innovation driven economy (high growth industry-highly skilled job-world class export).

Irrespective of where the gaps and opportunities are, the key players in an ecosystem can isolate good practices that should be shared and replicated, and look for international good practices that can serve as a map for addressing issues.

Outcome

- An overview of the ecosystem's health indicating the capacity to foster digital innovation to solve a community's problem.

Key takeaways

- Every ecosystem is different, and a mature ecosystem is able to help innovators leverage technological changes to address opportunities

- This **Ecosystem Maturity Map** helps to:

  - Identify specific challenges and opportunities that are present in an environment

  - Provide stakeholders a good understanding of their roles and responsibilities in an ecosystem and how they impact the overall health or maturity level of the ecosystem

- Working practices in an ecosystem should be amplified, while insufficient practices should be replaced by global best practices