Scaling Frontier Innovation

Frontiers Lab Asia

The Role and Value of Entrepreneur Support Organisations in Strengthening Entrepreneurial Ecosystems

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DISCLAIMER

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RESEARCH OBJECTIVES

The research aims to support the program goals by:

1. Consulting the research on the role of entrepreneurship in achieving development outcomes, and the influence of the EE on success
2. Consulting the research on the value of ESOs and the role they play in strengthening EEs
3. Identifying opportunities and recommendations for ESOs and funders to leverage the unique position of ESOs in the EE in ecosystem-building efforts

METHODOLOGY

To complete this research we conducted:

- A review of the academic literature, research papers, and funder and practitioner reports and articles on entrepreneur development, entrepreneurial ecosystems and the role and value of entrepreneur support organisations
- Interviews with 10 key informants, primarily leaders of ESOs in South and Southeast Asia (SSEA) as well as other emerging market regions, and two funders and supporters in entrepreneur development

Executive Summary

This research report explores the role and value of entrepreneur support organisations (ESOs) in strengthening the entrepreneurial ecosystem (EE) and the systems of support for entrepreneurs within them. Entrepreneurship, and the small and growing businesses (SGBs) that are engaged in it, has long been considered a key driver of sustainable development and inclusive growth, particularly in emerging markets. ESOs exist to support entrepreneurs and to increase the establishment, growth, and sustainability of SGBs. There is growing evidence that as a whole they are effective at what they do, as well as emerging information on their key drivers of success. Research is also beginning to review the role of ESOs in strengthening the entrepreneurial ecosystem. EEs are complex systems that are self-organised, adaptive, and geographically bound by a set of actors and factors interacting unpredictably with each other. As the environment in which entrepreneurs operate, the EE has a significant influence on entrepreneurs and SGBs, and the development outcomes resulting from their activities. The evidence suggests that those seeking to support entrepreneurs and SGBs must do so with an awareness of and commitment to strengthening the system. It is our assertion that, by implication, this must also include the ESOs within it. Given the research on EEs as complex adaptive systems, we share a set of principles for ESOs looking to effectively operate in and influence the ecosystem. We see particular opportunity in the role of ESOs as convenors and intermediators among entrepreneurs and the EE. Finally, we share conclusions and recommendations for funders looking to strengthen entrepreneurship, entrepreneurial support systems, and EEs. Key among them is our support of the intermediation role of ESOs in increasing decision-making power locally and within the startup community. Based on the evidence, when decision-making power is held locally and entrepreneurs are the strongest influencers in the EE, the startup community will be strengthened, and a strengthened startup community will be more sustainable.

Why Entrepreneurship for Development?

There is a significant body of evidence on the link between entrepreneurship and economic growth as well as innovation (see ANDE, 2018; Braunerhjelm et al., 2009). The economic growth engendered through entrepreneurship is particularly significant as it spans a wide breadth of sectors. ANDE (2018) suggests that *'entrepreneurship and SGB development is most often viewed as a means to achieving development outcomes in key sectors (e.g., agriculture, energy, health) rather than an outcome in and of itself'*. Importantly, economic growth from entrepreneurship is also noted for its inclusivity, as entrepreneurship is often leveraged to address barriers faced and target opportunities for disadvantaged groups (OECD/European Union, 2019). The Sasakawa Peace Foundation (2020) concludes that *'entrepreneurship must play a key role in creating solutions ... in order to improve women's agency, drive economic growth, and create a more equitable and inclusive future'* (SPF, 2020). Finally, the importance of this ability for generating growth is further elevated in the context of the economic recovery required following COVID-19 (GEN, 2020).

There is, however, an important distinction to be made between high and low productivity entrepreneurship in its ability to deliver on these development outcomes. The World Bank (2016) found productivity to be key in economic growth and poverty alleviation. Low productivity enterprises, most commonly microenterprises with informal structures, make a relatively low contribution and are widely prevalent in emerging economies (Endeavour, 2018).

'Usually in emerging markets, SMEs are not as competitive or productive as in developed economies due to key challenges such as limited access to skills, funding, markets as well as restrictions in the ecosystem like a lacking infrastructure or certain cultural norms and public policies that may not be as conducive to entrepreneurship.'

Juan Carlos Thomas, TechnoServe

Where enterprises are able to evolve into higher productivity entrepreneurship, they are more likely to advance economic development through the creation of sustainable job opportunities at higher wages. A key factor to this is the enterprise's growth ambition. ANDE (2013) notes that enterprises *'led by managers that intend to grow their businesses can generate increased employment and sustainable income for the poor'*. The Department of Business, Energy and Industrial Strategy (2019) found similar evidence that incubators promote the creation of high-quality jobs in their region.

The scope of this paper will concentrate on high productivity entrepreneurship, given its more conclusive link to increased inclusion and development outcomes.

What Are Entrepreneur Support Organisations?

An ESO is broadly defined as an entity that provides products and services designed and delivered to support entrepreneurs and SGBs. There is variation in the structure and menu of products. Some ESOs operate as for profit entities while others have a not-for-profit structure. Some function like corporations, raising revenues through fee-for-service models, others rely on donor and government support, and many combine these two fundraising approaches. They are all united by their aim to increase the establishment, growth or sustainability of entrepreneurial ventures (Hanlon & Saunders, 2007). In all cases, an ESO's viability depends on its success in developing a pipeline of entrepreneurs. To do so an ESO must continually adapt and respond to the market in which it operates.

All ESOs provide products and services, however each ESO may focus on a subset of these services. Typical ESO services are listed in the table below.

TABLE 1: TYPICAL ESO SERVICES

Mentorship & coaching	**Advisory services**	**Education services**
Networking & connections facilitation	**Office space**	**Grants & financing or funding facilitation**
Innovation support	**Event & competition facilitation**	**Peer learning & mentoring**

Sources: Feld & Hathaway (2020), GiZ (2021)

ESOs are present in the SSEA region in a variety of forms, such as incubators, accelerators, ecosystem builders, and other support providers of event-driven activities (such as competitions, bootcamps, hackathons, and events) (ANGIN & SPF, 2018).

THE INTERMEDIATION ROLE OF ESOs

A function of ESOs to facilitate connections between entrepreneurs and other interconnected networks. Several authors have observed that ESOs have moved from individual entrepreneur and firm development into filling a role as 'network system builders' because their typical support mechanisms facilitate the 'meeting and mating' of actors (van Rijnsoever, 2020).

'[ESOs] act as local intermediary institutions, strengthening the national ecosystem that nurtures entrepreneurship and the growth of small businesses. They facilitate linkages between entrepreneurs, other innovation actors and potential markets of suppliers and buyers, leading to the development of products that are marketable and enhance welfare. They also help entrepreneurs to connect with sources of finance, providing them with the means to innovate.'

UNFCCC (2018)

USAID's PACE program uses the term 'intermediaries' to define incubators, accelerators and seed-stage impact investors (USAID, 2018). In this context, the term 'intermediaries', or, more specifically, 'direct intermediaries', refers to organisations that provide capital and/or capacity development to SGBs.

It is worth noting that ESOs are not the only intermediaries in the EE. Several organisations play a role as 'indirect intermediaries', forming connections between and among diverse public and private EE actors and providing knowledge and resources to actors in the ecosystem.

Notably, business networks such as Chambers of Commerce are influential in government circles and play an advocacy and intermediation role between the business sector and public agencies.

This research report explores the intermediation role that ESOs can play in the EE. The term 'intermediation' describes the brokering and bridging of resources between actors. Intermediation supports collaboration between the resource provider and resource recipient (Hernandez-Chea et al, 2021) and adopting 'mechanisms and interventions to support them [actors] to succeed in their collaboration' (Johnson, 2008).

EVIDENCE ON THE ROLE AND VALUE OF ESOs

ESOs have attracted increasing research interest as a result of their perceived potential to contribute to development outcomes. While some studies conclude that ESOs contribute little to development impact, studies with larger sample sizes, such as those conducted by the Global Accelerator Learning Initiative (GALI), support the conclusion that firms that participate in ESO programming and acceleration services increase job creation and growth. While there is no one-size-fits-all approach to guaranteeing effectiveness, there is some evidence to suggest that specific approaches, such as tailored support, peer learning, localisation, fee-for-service, and networking, achieve the best outcomes. There is also growing evidence that engaging with and influencing the wider ecosystem is an important function of ESOs and that they can reduce or perpetuate existing inequalities. Diversity, equity and inclusion considerations should therefore be in-built into program design and implementation to ensure inclusivity. Below are selected findings from a literature review.

TABLE 2: SUMMARY OF SELECTED FINDINGS ON ESO IMPACTS AND VALUE

Theme	Study	Conclusions	Method	Geography
Impact on firm growth & access to finance	GALI (2021)	On average, accelerated ventures outperform non-accelerated ventures in both revenue growth and financing. Accelerated ventures demonstrated steadier growth and growth differences increased over time.	Total Funds variable compared a venture's available financial resources at Application (pre-acceleration), Year 1 (during acceleration), and Year 2 (post-acceleration)	Worldwide
	Endeavour (2018)	Many ESOs are unequipped to identify and assist high potential companies, and thus contribute to marginal growth ventures rather than ventures that have the most impact on economic development.	Interviews with technology entrepreneurs; secondary data gathered from technology founders, investors, and ESOs	Emerging markets
	GALI (2018)	The incremental flow of new funds into accelerated ventures was on average more than double the expenditure on accelerator programs.	Return on total investment (ROTI) analysis	Worldwide
	USAID (2018)	Donor investment in ESOs is an efficient use of funds. Estimates suggested that for every dollar of donor support, SGB revenue increased by an average of $3.07 and SGBs received nearly $10 in private investment.	A strategic review of USAID's PACE initiative	Worldwide
	Roberts et al. (2016)	Acceleration can increase the speed at which ventures raise investment.	Comparison of outcomes between accelerator participants and startups that applied, but were not accepted onto, a programme	Worldwide
	Hallen et al. (2014)	Acceleration has a positive effect on venture capital fundraising and customer traction.	Comparison of outcomes between accelerated startups and matched group of non-accelerated startups	United States

Theme	Study	Conclusions	Method	Geography
What works in entrepreneur support	GALI (2021)	There is no 'one-size-fits-all' approach for acceleration services that can ensure an effective program, but evidence suggests tailored support, peer learning, and localisation of service models are significant.	Total Funds variable compared a venture's available financial resources at Application (pre-acceleration), Year 1 (during acceleration), and Year 2 (post-acceleration)	Worldwide
	McKenzie and Woodruff (2020)	Tailoring is key to effective programming. Standardised training programs were largely not impactful, while customised consulting support was found to be more effective.	Literature review	Worldwide
	Argidius (2019)	Charging enterprises for services improves enterprise performance. Effects were seen even when charging was introduced to the same program. The highest performing ESOs evaluate enterprise performance data and feedback to continually improve their services.	Research; findings from independent evaluations and the performance data of enterprises	Worldwide
	UK Department for Business, Energy and Industrial Strategy (2019)	There is strong evidence of the importance of networking and mentoring, however less conclusive evidence of the value of other forms of support (e.g., provision of office space, direct funding and events).	Literature review	Worldwide
	Cai & Szeidl (2018)	Ventures that met monthly for peer learning in small groups grew 8-10% faster. Firms grouped with larger firms benefited the most. The results suggest that the optimal peer learning structure is one where firms share some characteristics, but are not direct competitors.	Results of peer learning for a random sample of ventures participating in ESO programs monitored against a control group	China
	Endeavour (2018)	Productivity is promoted in entrepreneurial communities when local entrepreneurial leaders who have previously led firms to scale are more influential in the EE. Programs led by non-entrepreneurs produce fewer outcomes.	Interviews with technology entrepreneurs; secondary data gathered from technology founders, investors, and ESOs	Worldwide
Ecosystem impact	Hernandez-Chea et al (2021)	Case studies of two agribusiness incubators found they play a role in configuring EE structures, facilitating other actors' service provisions, and brokering resource exchange at the ecosystem level, developing the EE itself in addition to supporting startup formation and growth.	Empirical investigation of two entrepreneurial ecosystems	Kenya & Uganda
	Ratinho et al. (2020)	Studies demonstrate that entrepreneurship is better understood using a systemic approach and that firm-level support, either passive or active, is necessary but not sufficient for the emergence of new firms.	Literature review	Worldwide

Theme	Study	Conclusions	Method	Geography
	Wang & Wu (2020)	Connections made by ESOs, both among entrepreneurs and between entrepreneurs and other ecosystem actors, have a positive effect on entrepreneur outcomes.	Analysis of survey data	China
	USAID (2018)	Intermediaries strengthen entrepreneurial ecosystems in different ways beyond the direct firm-level outcomes, including strengthening business support, markets, finance, policy, human capital, and research and development.	Analysis of USAID's PACE initiative	Worldwide
	Goswami et al. (2017)	Accelerators develop EEs as well as individual startups by helping to form connections, develop individual startups, coordinate the right match among various players in the ecosystem, and select mentors and founders with appropriate knowledge and motivation. This helps build commitment to the ecosystem.	Strategic review of interviews with accelerator graduates, accelerator managers, and other ecosystem stakeholders	India
Diversity, equity and inclusion	GALI (2021)	Not all entrepreneurs benefit from acceleration in the same way. For example, all-male founding teams raise more investment than all-female teams, and expatriate entrepreneurs in developing economies are more likely to access grant financing than local founders.	Total Funds variable compared a venture's available financial resources at Application (pre-acceleration), Year 1 (during acceleration), and Year 2 (post-acceleration)	Worldwide
	Carpio & Guadalupe (2018)	Accelerators can successfully reduce inequalities by adopting an intentional strategy. In a trial aimed to test whether a 'de-biased' invitation message would increase the number of female applicants for a tech skills course, the de-biased message resulted in double the applications compared to a generic message.	Two experiments looking at women in a 'tech bootcamp' analysed change in perceptions around women's role, prospects, and ability for success in the technology sector	Mexico & Peru
	ILO (2014)	Interventions that combine finance (especially grants) and business training, although more costly, seem to be more effective in supporting female-led startups than either finance or business training alone.	Review of meta-evaluations and rigorous impact evaluations that utilised a quantitative only or mixed methods approach	Worldwide

Considering Entrepreneurial Ecosystems as Complex, Adaptive Systems

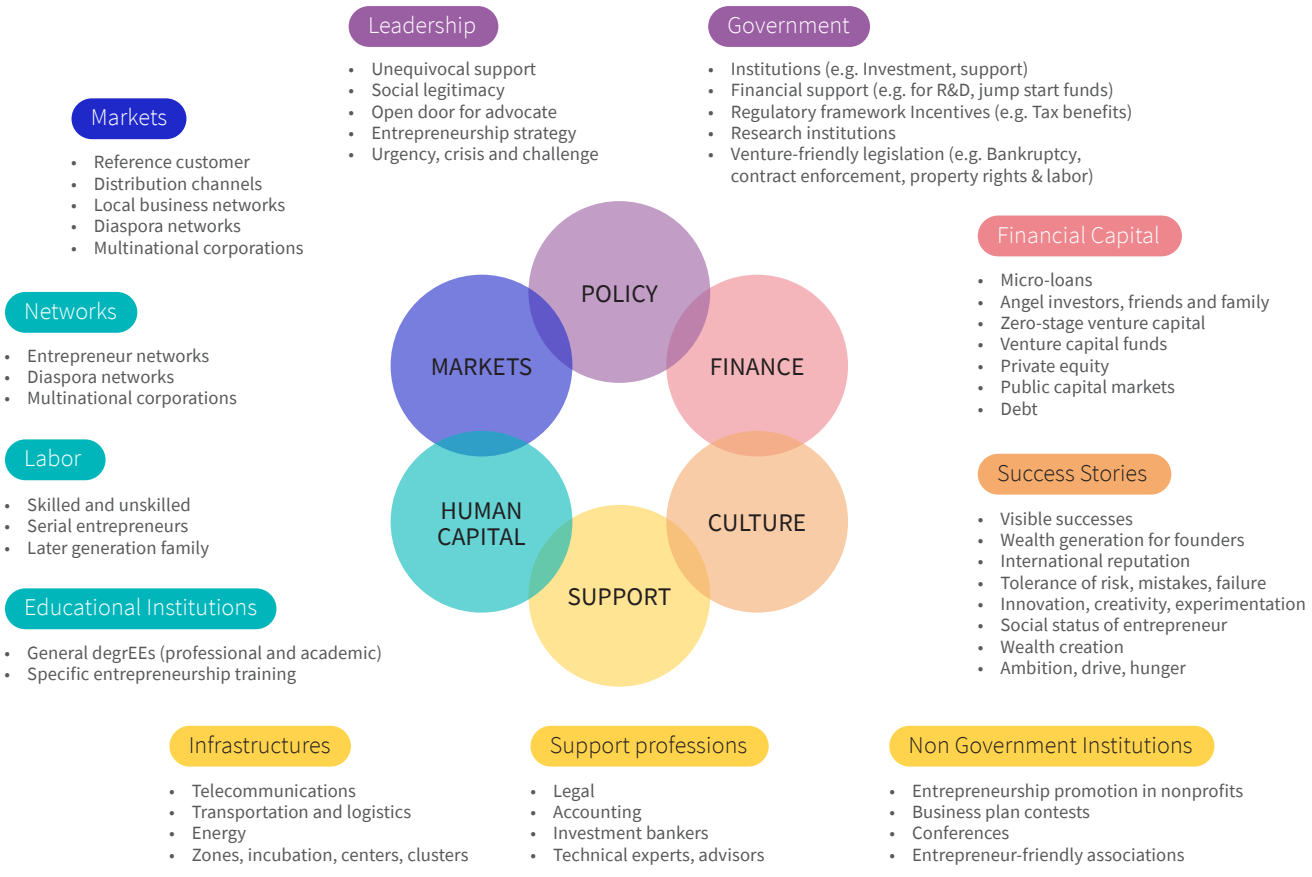
Entrepreneurship interventions, policies, and research have primarily focused on the entrepreneur (i.e. the individual or firm). However, researchers and public agencies have begun to recognise the systemic and context-dependent nature of entrepreneurship (Hernandez-Chea et al, 2021), and some are shifting their focus to a systemic approach that considers the EE. This section introduces the concept of EEs and the startup community 'layer' within them. It describes how the theory of complex adaptive systems (also referred to as complex systems) can help us better understand how to operate in and influence EEs. Conclusions provide evidence on the impact of EEs on entrepreneurial and SGB outcomes, and therefore the importance of considering YEs and their systemic properties when thinking about entrepreneur development.

ENTREPRENEURIAL ECOSYSTEMS

The EE construct is a framework for understanding how the environment influences the outcomes of entrepreneurs, in particular the dynamics between different system actors. The concept is still in its formative stage (Fredin and Lidén, 2020). A diverse range of academics and institutions have attempted to define it, each highlighting different features of an EE. What proponents of EEs have in common is their belief that interventions in entrepreneurship must take an ecosystem perspective in order to achieve a self-sustaining effect (Isenberg, 2011).

Looking across definitions of an EE, three primary components are involved: the actors, factors, and interactions both within and between actors and factors. Several definitions focus on identifying the various actors and factors that comprise an EE. For example, the commonly referenced Babson Entrepreneurs Ecosystem Project (Isenberg, 2011) includes policy, finance, culture, support, human capital, and markets. Others give greater focus to the interactions. Stam and Spigel (2017) offer a broad definition of EEs as a *'set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory'.*

FIGURE 1. THE BABSON ENTREPRENEURSHIP ECOSYSTEM PROJECT (ISENBERG, 2011)



A more detailed definition offered by the Organization of Economic Cooperation and Development (OECD, 2013), which is based on a synthesis of definitions in the literature, states that an EE *'consists of interconnected entrepreneurial stakeholders (both potential and existing), entrepreneurial organisations (e.g., firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes and statistics such as the business start-up rate, the number of high-growth firms, the levels of 'blockbuster entrepreneurship', the number of serial entrepreneurs, the degree of sell-out mentality within firms and the levels of entrepreneurial ambition. These all coalesce both formally and informally, with the ultimate aim of linking, mediating and governing performance within the local entrepreneurial environment.'*

THE STARTUP COMMUNITY

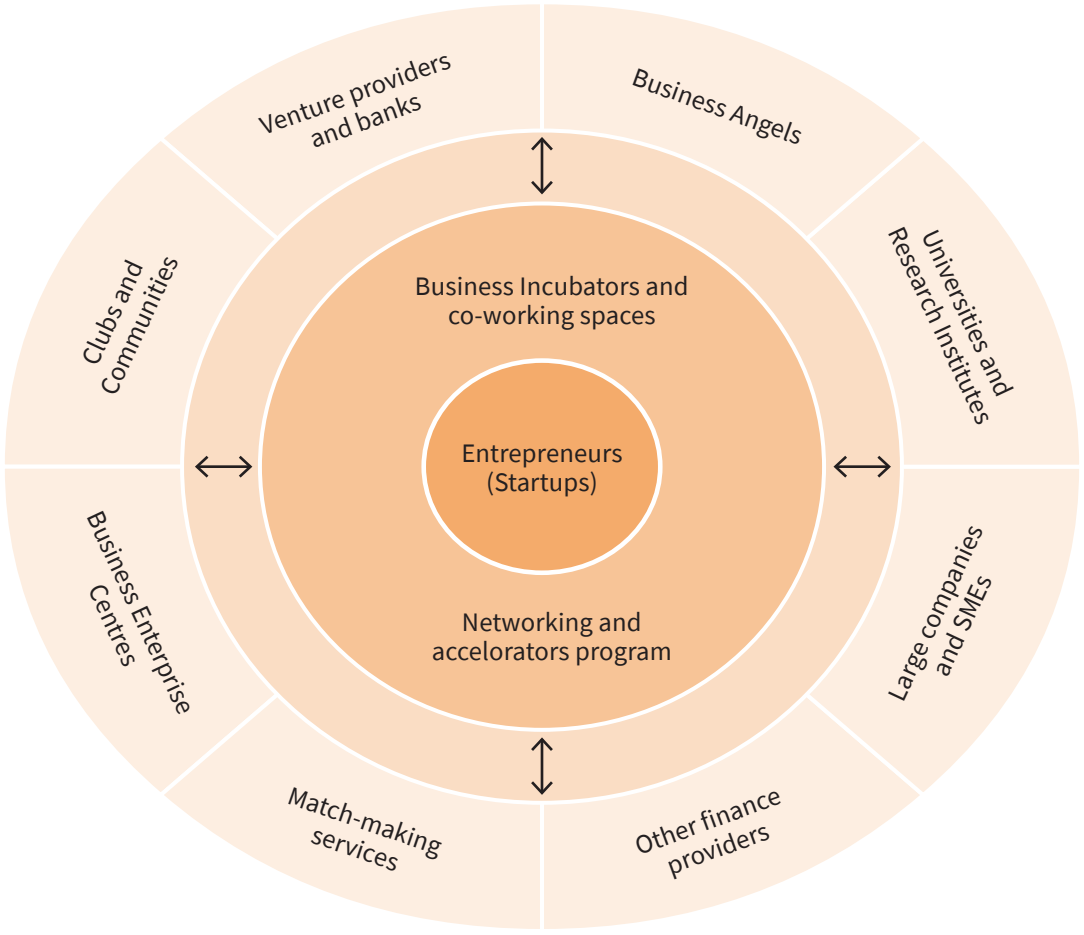
An overlapping, yet distinct, concept to EEs is the startup community:

'While communities and ecosystems are related, they are different things... Each are collections of actors and factors in a physical place that interact in a way that influences entrepreneurs and produces entrepreneurship. Each is intensely local in nature and critical to a vibrant economy. However, a startup community is the beating heart of entrepreneurship in a city and sits at the core of anentrepreneurial ecosystem.'

Feld & Hathaway (2020)

The startup community is a system that exists within the EE, which in turn is a system that exists within broader innovation and economic systems. Feld and Hathaway consider the members of the startup community as the entrepreneurs and startup employEEs, as well as ESOs. Similarly, Hernandez-Chea et al. (2021) conceptualise EEs by placing entrepreneurial actors at the centre (entrepreneurs, startups, business incubators, co-working spaces, accelerator programs etc.), and other stakeholders, various resource providers, and connectors, around them.

FIGURE 2. THE ENTREPRENEURIAL ECOSYSTEM (HERNANDEZ-CHEA ET AL. 2021)



PROPERTIES OF EEs AS COMPLEX ADAPTIVE SYSTEMS

Complex adaptive systems are 'systems that have a large number of components, often called agents, that interact and adapt or learn' (Holland, 2006).

Scholars have proposed that EEs are best understood through the lens of complex adaptive systems theory (Roundy et al. 2018; Fredin and Lidén, 2020). Based on the hypothesis that EEs are complex adaptive systems, Roundy et al. (2018) apply their characteristics to better understand EEs. We have synthesised and built on these considerations in the following table.

TABLE 3: PROPERTIES OF COMPLEX ADAPTIVE SYSTEMS SHARED BY EEs

Properties	Description
1. Emergence through self-organisation	Emergence is *'the creation of new "order" – structures, processes, and system-wide properties that come into being within and across system levels'* (Lichtenstein, 2011). The overall behaviour of an EE emerges from the interactions and decisions of multiple individuals and organisations. No actor in an EE can control or direct it, but instead can only influence it.
2. Open-but-distinct boundaries	EEs are defined by geographic boundaries at different scales, for example the community, city, or national level. However, these boundaries are open and actors can come in and go out of the system. EE boundaries can also be defined by network connections, and membership in an EE is in part dependent on connections and a shared set of cultural norms and values. Actors who are close both geographically and culturally to the system are more likely to influence and be influenced by it. Open boundaries also mean that EEs can be influenced or 'pushed' by outside forces.
3. Complex components	Actors in an EE are heterogeneous in their attributes, their interactions with the external environment, and their relationships with other actors. The degree of coherence among actors is critical as it results in an interconnected system as opposed to a system with a number of autonomous parts. Coherence can emerge from shared goals, values, norms, and behaviours.
4. Nonlinear dynamics	The interdependent components of an EE lead to 'nonlinear dynamics and feedback loops' [reference?] The nature of nonlinear relationships means that relatively small inputs and activities can result in large outcomes (Berger & Kuckertz, 2016). A positive feedback loop leads to the indefinite increase or decrease in a behaviour in the system (Manson, 2001).
5. Adaptability through dynamic interactions	It is through interactions that actors within an EE continue to learn and adapt, resulting in continuous evolution of the EE. This allows the EE to adapt to changing conditions, such as disturbances (e.g., the COVID-19 pandemic) and injections of resources (e.g., development agencies injecting capital). The higher the density of connections in the system, the more flexible the components are, and the more adaptable the overall system is to change.
6. Sensitivity to initial conditions	The historical and cultural origins of an EE heavily determines its current and future state. Given the number of actors, factors, and unpredictable interactions between them, EEs are entirely unique. Each EE is on its own unique trajectory, and it is important to understand the history and current state in order to influence that trajectory.

'An entrepreneurial ecosystem is a self-organized, adaptive, and geographically bounded community of complex agents operating at multiple, aggregated levels, whose nonlinear interactions result in the patterns of activities through which new ventures form and dissolve over time.'

Roundy et al, 2018

In summary, the EE emerges from the interplay of the founder and venture level with the ecosystem level.

Considering EEs as complex adaptive systems opens up opportunities to influence the overall system by focusing on the interaction between these two levels. After considering the impact of EEs on entrepreneurial outcomes, we will use the theory of EEs as complex adaptive systems to address how to influence these outcomes.

'Viewing startup communities as complex systems, rather than complicated ones, opens up a new approach for interacting, engaging with, and improving them.'

Feld & Hathaway, 2020

THE IMPACT OF EEs ON THE SUCCESS OF ENTREPRENEURSHIP AND SGBS IN EMERGING MARKETS

There is a consistent narrative around the influence of EEs on entrepreneurial outcomes, reinforcing the importance of considering EEs in attempts to support entrepreneurs and SGBs.

'[T]he environment in which startups operate influences their success to a large degree. It is the nature of these external factors — and more critically their linkages with entrepreneurs and with each other — that explains why some places can consistently produce high-impact startups while others struggle.'

Feld and Hathaway, 2020

This has been associated with 'economic spillover theory': the more knowledge, information, and resources that flow through an ecosystem, the more the actors within it will benefit, and therefore the greater their successes will be (GiZ, 2021).

Research has demonstrated that the EE has a heightened influence on entrepreneurial outcomes in emerging economies. In these contexts the EE is often weak in terms of both its components and linkages.

'Weak entrepreneurial support systems, fragmented linkages to climate technology markets and a lack of finance for entrepreneurial activities. These challenges are exacerbated in developing countries.'

Green Climate Fund, 2018

When considering the components of the EE, uncertain institutions in emerging markets inhibit opportunities for entrepreneurship by increasing risk and complexity (Tracey and Phillips, 2011). On linkages, Khanna (2018) argues for the importance of trust, and that the overall lack of trust in emerging markets impedes startup success. He notes that entrepreneurs in these contexts must build trust within existing systems, in addition to building companies, in order to succeed.

'The entrepreneur must not just create; she must create the conditions to create.'

(Khanna, 2018)

In resource-scarce environments, social capital and networks are particularly critical as they can help compensate for gaps in the environment (Wang & Wu, 2020; Estrin et al, 2018). Networks can help entrepreneurs gain access to limited resources and continue to learn and adapt from interactions.

Goswami et al. (2017) demonstrated the role of ESOs (in this case accelerators) as institutional intermediaries that link entrepreneurial firms with public resources, helping to address institutional failures prevalent in emerging market contexts. Intermediaries provide flexible pathways for accessing public resources that are critical for less-connected entrepreneurs, while politically connected entrepreneurs can bypass the intermediary (Armanios et al., 2016). This demonstrates the importance of ESOs in the pursuit of inclusivity goals as they diversify the pool of successful entrepreneurs.

In sum, the influence of a weak EE is significant, and emerging markets experience opportunity loss in economic potential and the creation of innovations suitable to the local context (UNFCCC, 2018).

APPROACHES TO MEASURING ENTREPRENEURIAL ECOSYSTEMS

Approaches to EE measurement are relatively nascent, although they are gaining increasing attention from academics, research institutes, and practitioners alike. However, there remains no consensus on the most valuable way to measure EEs and, as Stangler and Bell-Masterson (2015) point out, different ecosystems may have contextual priorities informed by local factors.

Some dimensions that appear across proposed approaches to measuring EEs are described below. DFAT is currently supporting the development of a pilot measurement framework for EEs, which is being tested under the Frontiers Lab Asia (FLA) pilot, Guiding Principles for ESO Impact Measurement[4].

4. The proposed solution is a set of guiding principles for ESO impact measurement and agreed best practices for ESOs to adopt and funders to align with. A community of practice will be set up to launch the principles, including key stakeholders from the entrepreneur support ecosystem in Asia, to drive the principles and measurement of their impact on the sector. Accessed here.

1. Entrepreneurial Culture

Considerations in entrepreneurial culture include perceptions of entrepreneurship, ease for entrepreneurs in identifying opportunities, and feasibility of acting on opportunities (GEDI, 2018). GEDI (2018) also identifies local perceptions of risk and willingness to accept risk as a metric of ecosystem strength.

The capacity for inclusiveness is defined as a component of culture that supports an ecosystem to develop. GiZ (2021) measures inclusiveness through the number of women and minorities that are founders, investors, or lead ESOs as well as the amount of funding given to women-led businesses. Stangler and Bell-Masterson (2015) include the extent to which a region can attract immigrants and include them in the EE as an indicator of ecosystem measurement.

2. Enabling Institutional Environment

The institutional environment is another common factor cited as a determinant of the strength of an EE. GiZ (2021) measures this through the support offered by policies relating to startups, including whether policies have been informed through collaboration with entrepreneurs, and the business environment. Forward Cities (2020) considers policies, regulations, and recovery strategies when measuring this. Again, inclusiveness is a component of the institutional environment, with Forward Cities (2020) suggesting the equity of policies and regulations should be factored in.

3. Accessibility of Support, Talent and Financing

Access to support, talent, and financing are often included in EE measurement. GEDI (2018) considers talent from both the perspective of access to individuals who are highly educated and well-trained (human capital) and access to individuals with the skills necessary to scale a business (startup skills). Startup Genome (2020) particularly elevates the importance of access to funding in their measurement methodology, which out of six factors is given a 25% weighting of the overall score. GiZ (2021) considers the quantity and quality of entrepreneur services (including ESOs) and mentors as well as access to finance and talent.

4. Connectivity

The degree of connection between ecosystem players is commonly cited as a component of EE measurement. GEDI (2018) measures this through connections between entrepreneurs, while GiZ's (2021) proposed metrics considers cooperation between various ecosystem players, including connections with other ecosystems. Both Startup Genome (2020) and Forward Cities (2020) suggest that tracking the number of entrepreneurial events gives insight into ecosystem connectivity. Forward Cities (2020) also proposes that entrepreneurial research and learning, including the way that practices and data is codified and shared, provides an indication of the strength of an EE.

Other notable factors in the measurement of EEs include the size and accessibility of the local technology sector (GEDI, 2018), local uptake of new innovations (GEDI, 2018), and market reach (Startup Genome, 2020). Stangler and Bell-Masterson (2015) also suggest fluidity is an important metric in ecosystem measurement, which considers capacity for taking existing resources and reallocating them for greater value. This includes human capital (measured through population flux and labour market reallocation) as well as internal resources (measured through the number of high-growth enterprises, as a concentration of high-growth firms indicates whether or not entrepreneurs are able to allocate resources to more productive uses).

Entrepreneur Support Organisations as Systems Change Agents

Previous research on entrepreneur support has primarily focused on the benefits it yields at the entrepreneur and SGB level. Some research indicates that the benefits of ESOs are often marginal, especially in emerging economies (Endeavor, 2018). Even in cases where the firm is accelerated to achieve high growth, its progress is inevitably stunted if the EE, which has a strong influence on entrepreneurial and SGB outcomes, is weak.

This research reinforces the hypothesis that those seeking to strengthen entrepreneurship and SGBs in emerging economies need to recognise the influence of the EE in order to achieve scale and sustainability. A weaker environment means that there is greater need and opportunity for entrepreneurs and supporting actors to strengthen it. Therefore, while entrepreneur development is important, we argue it is not sufficient.

Entrepreneur development and ecosystem strengthening are not mutually exclusive (GiZ, 2021). It is the role of ESOs in supporting entrepreneurs that places them in a unique position in the EE to assist entrepreneurs and their firms as well as connect entrepreneurs with other actors and influence those actors to better support them.

Through this research we have gleaned 8 mechanisms for ESOs to effectively operate in and influence the EE. We argue further that ESOs in emerging economies are well positioned to influence the ecosystem in their contexts (although there are some constraints to consider) and provide recommendations for both funders and ESO leaders.

> 'There is no silver bullet that will address the entrepreneurship deficit or the barriers to entrepreneurship that many face. We must address the entire system. We need to change the way we think about helping entrepreneurs. And we need to ensure access and opportunity for everyone.'
>
> **Kauffman Institute, 2019**

> '[E]ntrepreneurship policy rarely attempts to help foster vertical connections across ecosystems. Yet arguably, in order to help foster 'blockbuster entrepreneurship' more system-wide and outward-oriented approaches are likely to be more effective.'
>
> **Brown and Mason, 2017**

As complex, adaptive systems EEs are constantly evolving and therefore wholly unpredictable. In this context, Eisenhardt and Sull (2001) recommend creating a set of 'decision rules' that guide an organisation. Other researchers and funders active in supporting EE development call for 'principles', and examples from Kauffman Institute and 'The Startup Community Way' are shared below.

Since 'what works' will not apply across EEs, this research report will focus on outlining a set of principles to guide decisions and behaviours in strengthening entrepreneurial ecosystems in emerging markets, rather than attempt to describe a blueprint for ecosystem-building activities.

THE SEVEN DESIGN PRINCIPLES FOR BUILDING ENTREPRENEURIAL ECOSYSTEMS (KAUFFMAN INSTITUTE, 2019)

1. Put entrepreneurs front and center
2. Foster conversations
3. Enlist collaborators. Everyone is invited.
4. Live the values.
5. Connect people bottom-up, top-down, outside-in
6. Tell the community's authentic story
7. Start, be patient.

THE STARTUP COMMUNITY WAY PRINCIPLES (FELD & HATHAWAY, 2020)

1. Entrepreneurs must lead the startup community.
2. The leaders must have a long-term commitment.
3. Startup communities are complex adaptive systems that emerge from the interaction of the participants.
4. Startup communities can be guided and influenced, but not controlled.
5. Each startup community is unique and cannot be replicated.
6. Startup communities are organised through networks of trust, not hierarchies.
7. The startup community must be inclusive of anyone who wants to participate.
8. Openness, support, and collaboration are critical behaviors in a startup community.
9. The startup community must have continual activities that meaningfully engage the entire entrepreneurial stack.
10. Startup communities must avoid the trap of letting demand for measurement drive flawed strategies.
11. Putting founders first, giving before you get, and having an intense love of place are essential values in a startup community.
12. Startup communities are propelled by entrepreneurial success and the recycling of those resources back into the next generation.
13. The best startup communities are interconnected with other startup communities.
14. The primary purpose of a startup community is to help entrepreneurs succeed.

1. Prioritise the 'Startup Community' Layer to Facilitate Connectivity in EEs

Much of the research concludes that strengthening the 'startup community' layer allows the ecosystem to evolve. Therefore, support of the startup community should be prioritised when the goal is to strengthen the EE. The startup community, which consists of *'founders, startup employEEs, and organisations such as accelerators and incubators'*, is a system within an EE that has the ultimate purpose of supporting entrepreneurs to succeed (Feld and Hathaway, 2020). The EE's primary purpose, on the other hand, is economic: to produce startups, generate jobs, and generate economic value.

Feld and Hathaway (2020) argue for the importance of the 'community/ecosystem fit'. As entrepreneurs succeed, actors from the broader EE are inevitably drawn in, resulting in a virtuous cycle and bringing in essential capital (financial and non-financial) to the community. Strengthening the community layer allows the ecosystem to evolve in response to a strong startup community.

Research has demonstrated that ESOs often intermediate between multiple layers, mediating relationships and resources within the startup community, between the startup community and the EE, and finally among ecosystem actors (Hernandez-Chea et al., 2021). There is evidence that strengthening networks among startups is the most effective ESO mechanism for overcoming a lack of connectivity in innovation ecosystems (van Rijnsoever, 2020).

Therefore, strengthening the community layer and fostering connections between the startup community and other EE actors is an opportunity for supporting entrepreneurship. These connections ultimately strengthen the EE.

'Successful ecosystem builders must connect traditional, top–down economic development approaches with the grassroots, bottom-up, community-driven environments in which most entrepreneurs thrive.'

Kauffman Institute, 2019

2. Prioritise Connections and Interactions

'Network nodes' are people or organisations that are connected in a network. Highly connected nodes have a particularly powerful influence on the network as they can spread positive norms and behaviours through their numerous connections. The way that actors and factors connect within an EE is what truly differentiates an enabling environment for entrepreneurs. This involves not only the quantity of connections but the quality, whether or not these connections are promoting the ideas, behaviours, and information that are supportive of entrepreneurship, and how quickly and widely they are able to spread. Roundy et al (2018) conclude that rules such as 'help other EE participants' or 'give before taking' should be encouraged as they increase coherence of actors within, and therefore strengthen, the EE.

The 'Six Conditions of Systems Change Theory'[1] considers interventions that aim to 'shift mental models' produce 'transformative change'. Yet studies on EEs rarely mention 'intermediation', instead assuming that actors in the system will interact simply by being a part of it. Ngongoni et al. (2017) demonstrate this is not true, and that in complex systems such as EEs, a mediator is required to facilitate connections and interactions.

Goswami et al. (2017) identify the 'commitment engagement intermediation process', where an accelerator's connections and coordination leads to 'cognitive proximity and alignment' of beliefs and actions, building overall commitment to the EE.

The formal and informal networks that exist within an EE facilitate information flow and knowledge sharing that enables entrepreneurs to overcome barriers or resource gaps. In emerging economies where EEs are weak, knowledge and information acquired through networks is even more critical, helping to plug institutional gaps (Estrin et al., 2018).

1. The Six Conditions of Systems Change Theory consists of: Policies, Practices and Resource Flows at the explicit, structural change level; Relationships & Connections and Power Dynamics at the semi-explicit, relationship change level; and Mental Models at the implicit, transformational change level. Field Solutions Group. 2018. The Water of Systems Change. Accessed here.

Mature entrepreneurs can and should also play a role in intermediation. Many entrepreneurs who have already successfully grown their business may look to grow the ecosystem for the benefit of their firm and broader community. This is an example of a positive feedback loop in EEs, as entrepreneurial success seeds success when knowledge, connections, and financial capital of entrepreneurs are recycled back into the system for future generations (Endeavor, 2018). Entrepreneurs need to be incentivised and facilitated to do so, and it should be recognised that in some environments it will take time for these entrepreneurs to emerge.

3. Collaborate for Systems Change

Strengthening EEs will require action from a wide range of actors, including government, universities, corporations, development agencies, and more. ESOs and other actors need a collaborative mindset and strategy in order to contribute to shifting the system. The need for collaboration is particularly salient in addressing cross-cutting and systemic challenges, such as access to finance or reducing inequality in the EE. Such challenges cannot be addressed by any single ESO or organisation alone.

'A sound entrepreneurial ecosystem is fundamental for sustained entrepreneurial success, but strengthening it requires wide-ranging actions.'

UNFCCC, 2018

The concept of 'The Networked Nonprofit'[2] provides a useful illustration and inspiration for how organisations seeking to strengthen EEs can show up in ways that are conducive to systems change. Networked nonprofits emphasise trust over control in partnerships, see themselves as nodes in a network rather than centres, and put mission first rather than the organisation first. As a result, these organisations are able to achieve their mission more efficiently, effectively, and sustainably than they could on their own.

4. Intentionally Address Inequalities

The significance of networks on an entrepreneur's ability to access resources in an EE (Armanios et al., 2016) emphasises the importance of intentionally addressing barriers experienced by certain groups of entrepreneurs. For example, female-identifying and underrepresented entrepreneurs may possess less political, social, and cultural capital, meaning they are not able to access resources from, or significantly influence and shape, the system. Evidence shared on page 7 demonstrates that reducing inequalities in an entrepreneur's access to resources can and must be intentionally designed. Otherwise, existing biases have been demonstrated to increase inequalities in outcomes for entrepreneurs (Michaelides, 2020).

5. Experiment, Test and Iterate

EEs as complex adaptive systems are emergent in nature. Given the evolving and unpredictable nature of EEs, those wishing to influence them should apply adaptive, experimental approaches, such as lean startup methodologies. By constantly running experiments, learning from them, adapting, and scaling what works, actors can introduce successful innovations into the system.

'The results clearly showed that ecosystem strengthening programmes must be more flexible than traditional development programmes, simply because of the above three reasons [ecosystems are unique and dynamic and ecosystem strengthening is about building relationships]. This could actually lead to ecosystem strengthening projects being regarded as startups.'

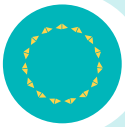
GiZ, 2021

2. 'Management wisdom says that nonprofits must be large and in charge to do the most good. But some of the world's most successful organizations instead stay small, sharing their load with like-minded, long-term partners. The success of these networked nonprofits suggests that organizations should focus less on growing themselves and more on cultivating their networks.' Wei-Skillern & Marciano. The Networked Nonprofit. Stanford Social Innovation Review, Spring 2008. Accessed here.
3. 'Lean Startup' is a methodology for building and launching new products based on the process of build-measure-learn. It aims to answer the question, 'How can we learn more quickly what works and discard what doesn't?' The Lean Startup, Eric Ries, 2011. Accessed here.

‘We see everything as an experiment, we are always testing, learning and evolving.’

Juan Carlos Thomas, Technoserve
(Key Informant Interviews)

6. Build Capabilities, Including Through Peer Learning



Several studies have demonstrated the effectiveness of peer learning in building capabilities and improving outcomes for entrepreneurs (e.g., GALI, 2021; Cai & Szeidl, 2018). Connections facilitated by accelerators have been found to increase entrepreneur expertise, with the frequency of interactions through formal and informal networking opportunities critical for the learning process (Goswami et al., 2017).

Beyond building capabilities of entrepreneurs, building capabilities across levels of the EE, including ESOs, will strengthen the actors within it and therefore the EE. The Frontier Incubators program, a component of Scaling Frontier Innovation and supported by the Australian Department of Foreign Affairs and Trade (DFAT), tested the hypothesis: *“Building the capability of incubators in the Asia-Pacific region will result in better quality support and will be available to more entrepreneurs, therefore creating better enterprises and resulting in greater development impact”* (Scaling Frontier Innovation, 2019). Results from the final review of the program revealed that peer learning was an effective way of building capabilities while adding value to organisations through the extended network and interactions (Moonshot Global, 2020).

EEs are constantly changing and adapting, with actors learning from each other through interactions (Fredin and Lidén, 2020). Peer learning within and across EE boundaries ensures continued injections of knowledge, connections, and ideas, resulting in a dynamic and evolving EE.

‘New knowledge and new ideas from outside are needed to keep the dynamic of a place going.’

Fredin and Lidén, 2020

7. Act Within the Market System

Those seeking to influence the EE in emerging markets need to exist within it and be embedded long term. Considering the existing support functions and the market for entrepreneur support and ecosystem -building interventions will be critical for longer-term sustainability. In developed markets, SGBs and ESOs are frequently supported by the market and/or governments. In this way, support comes from existing and local functions. In emerging markets, donors may step in to plug gaps in support to SGBs and ESOs where the market or government does not. In this context, additional consideration must be made to ensure outside interventions attempt to influence and ‘push’ the system until the market for these services can be embedded.

‘Interventions need systems thinking built into their DNA by working with existing supporting functions and removing barriers for all businesses, rather than supporting one at a time by providing capital.’

Timothy Stewart, Palladium *(Key Informant Interviews)*

‘ESO should be encouraged to find working business models’

Romy Cahyadi, Instellar *(Key Informant Interviews)*

8. Tailor Impact Measurement to the EE Systems

Actors attempting to influence EEs and the system of support to entrepreneurs within them must recognise that high impact events will be nonlinear, unpredictable and surprising. Those embedded in the system can surface the undercurrents of change that are taking place. The changes in an ecosystem that are easier to measure (such as the number of actors) are also the least influential, while the harder-to-measure changes (such as the quality and nature of connections or norms and culture) are the most impactful.

Given the complexity of EEs and the essential startup community layer within them, measurement needs to go beyond simple metrics that count outputs and assess the characteristics of the ecosystem, such as the depth and breadth of interactions (Roundy et al, 2018). An overemphasis on growth metrics (such as jobs created and the number of ventures) ignores significant aspects of ecosystem health. Metrics should facilitate mapping of outcomes and adapt to the dynamism of the system.

'Perhaps one of the most significant errors that occurs in a startup community is the belief that doing more of something will result in a better outcome. In particular, people often equate increasing inputs, such as actors (e.g., investors, talent) and factors (e.g., financing, programs) with the increase of desired outputs (e.g., startups, entrepreneurs) and outcomes (e.g., exits, job creation). Since startup communities are nonlinear and complex, thinking inquantities is a flawed strategy better suited to complicated systems. Nonlinear, network-based systems exhibit power-law dynamics, where a small number of actors and events drive overall value in the system.'

Feld & Hathaway, 2020

Approaches to Strengthening EEs

Key informants pointed to a number of strategies adopted by ESOs to strengthen the EE.

INFLUENCING ECOSYSTEM ACTORS THROUGH PARTNERSHIP

'We are aiming to connect the social innovation ecosystem, gain influence over policy-making and education systems [through partnerships with government and universities], influence and connect other components of entrepreneur support systems.'

Melanie Mossard, Impact Hub Phnom Penh, Cambodia

INFLUENCING ECOSYSTEM ACTORS THROUGH RESEARCH PUBLICATIONS

'We have a strong research department that is a market leader in diagnostic research on the startup ecosystem in Pakistan and the region. Our insights department is the first to launch a deal flow tracker for Pakistan.'

Mehvish Arifeen, Invest2Innovate, Pakistan

FACILITATING ACCESS TO INFORMATION

'Access to information, ESOs can support and signpost to enable others to navigate that ecosystem. Startup Chile, for example, it's not just programs but also looking at what else can be supported.'

Harry Devonshire, Argidius Foundation

PROMOTING AN ENTREPRENEURIAL CULTURE

'Another way [to support the development of the ecosystem] is to celebrate entrepreneurship to pivot to a culture that places higher value on entrepreneurs. This is of particular help with groups, such as women, that may not consider entrepreneurship as a viable path due to cultural norms.'

Juan Carlos Thomas, Technoserve

BUILDING AN INCLUSIVE ECOSYSTEM

‘The startup space in Pakistan is dominated by individuals (mainly men) who come from privileged backgrounds, they have western degrEEs and have access and exposure to the rest of the world. We are now even more inclusive and are bringing in more women entrepreneurs from diverse economic backgrounds into the space to scale up their businesses using technology.’

Mehvish Arifeen, Invest2Innovate, Pakistan

IDENTIFYING AND ADDRESSING ECOSYSTEM GAPS

‘It’s a complex system. Beyond just delivering a project to small and medium enterprises, support ESOs at the organisation level, building capacity to identify challenges and gaps and more effectively act into the system. That’s what we think can help nudge the system along.’

Harry Devonshire, Argidius Foundation

‘We are building and testing a technical assistance platform that will add value to the market and strive for sustainability. Through RISE program, we aim to increase efficiency and inclusivity within the ecosystem and address a specific market need for accessible, high-quality, tailored technical assistance for entrepreneurs and investors.’

Kevin Robbins, Swisscontact, Cambodia

PROMOTING PEER LEARNING

‘[Invest2Innovate is an] entrepreneurship system builder. A key effort has been supporting all stakeholders in the local and regional entrepreneurial ecosystem. We have played an important role in supporting and empowering ESOs in Pakistan, Vietnam, Iraq and Lebanon.’

Mehvish Arifeen, Invest2Innovate, Pakistan

Source; Key informant interviews with ESOs and funders

Conclusions and Recommendations for Funders[5]

Based on this research, we recommend a shift in the way the role and value of ESOs are defined in order to recognise their potential for strengthening EEs and the support systems within them. To achieve this, interested parties can work together to leverage the position that ESOs hold in the ecosystem to engender systems change.

'There is a significant gap between the systemic innovation that society needs and the incremental and additive innovation which is most often produced. One reason that many social innovation efforts fail to have the impact hoped for is that these innovations are not designed to bring about wider systems change.'

Leadbeater & Winhall, 2020

1. Embrace the Intermediation role of ESOs

ESOs are embedded within the startup community with the primary purpose of understanding the needs of and supporting entrepreneurs through effective programming. At the same time ESOs can invest in connections and relationships with diverse actors and are often highly influential 'network nodes'. As expressed by Rice and Noyes (2021) in the context of incubators, 'bridging and closing structural holes can be viewed as both an incubation services strategy and an entrepreneurship ecosystem-building strategy'. They are in a unique position to serve as a hub connecting entrepreneurs with, and influencing, the broader EE. Research demonstrates the need for 'intermediation' to manage coordination between different actors in an innovation system (Ngongoni et al., 2017). To bring about change in such complex adaptive systems such as EEs, the focus must be on strengthening interaction and building cohesion, connectivity, and trust. ESOs can do this by facilitating repeated engagement within and between the startup community and EE.

Funders should seek to work with ESOs, and ESOs should demand support, to explicitly incorporate ecosystem-building and network-weaving activities into their programming, funding, and organisational strategies. In contexts where existing ESOs are not already implicitly playing this intermediation role, funders can build the capacity of ESOs that demonstrate high connectivity and embody the principles in order to take this on.

a) Design grants to build ESO capabilities and achieve sustainability

Often startups themselves, ESOs need financial and organisational sustainability and stability in order to have influence and build effective organisations. Research by Scaling Frontier Innovation in 2019 surveyed ESOs in SSEA and reported that financial sustainability was the second ranked issue. The USAID PACE program (2018) reported an average of 70% of revenue coming from grant assistance and a report from GALI (2021) concluded that ESOs will likely continue relying on outside support. At the same time, a model supported by grants leads to two 'customers' for ESOs, the entrepreneur and the donor. Granting models risk an imbalance of demand towards the side of the donor, breaking the feedback loop between the entrepreneur and the ESO. They can also discourage entrepreneurial behaviour such as minimum viable solutions, experimentation, adaptation and learning, on the part of the ESO.

We recommend designing grants with the goal of supporting ESOs to achieve financial and organisational stability. Firstly, these mechanisms can include funding for ESOs to build their own capacity and organisational strength, which would shift decision-making power back to the ESO and enable them to respond to entrepreneur needs. A sole emphasis on relatively short-term, program-based funding maintains power and demand on the side of the funder. Secondly, funding can support ESOs to test new business models in context with a combination of entrepreneurs, corporations,

5. Whilst these recommendations are targeted at funders, they are relevant to ESO management.

government, and universities as customers, diversifying income. Finally, funding evidence generation on the role and effectiveness of ESOs will enable ESOs to 'sell' evidence-driven services to a range of customers. Sustainable and stable organisations will enable ESOs to make longer-term strategies, essential in intermediation and network-building.

b) Apply adaptive approaches to funding EE development

Despite that a key point of influence for ESOs is their ability to function as network -builders and -weavers, traditional project-based funding often does not support these activities (University of Oxford, 2021). While recommendation 1a) calls for funders and ESOs to diversify their customers for direct program delivery, the intermediation role is universally challenging to fund or monetise. We recommend that funders consider dedicating funds to intermediation. If this shift is too stark, pilot programs can be tried and expanded following lessons learned about what works best.

Funding organisations to influence EEs needs to match the unique and unpredictable nature of complex adaptive systems. A guide from GiZ on 'Strengthening Entrepreneurial Ecosystems' argues that EE programs must act like startups (GiZ, 2021). This means interventions that are designed to be flexible and responsive to change within and feedback from the system have longer timelines to allow for slow and unpredictable progress and for continuously piloting, testing, and scaling what works.

c) Support ESOs to develop robust measurement frameworks

Realising the role of ESOs in ecosystem strengthening requires the systems approach to be carried through to impact measurement approaches. Funders should support ESOs to develop robust measurement frameworks that monitor the change as it occurs in the EE. ESOs require access to relevant frameworks, capacity building, and tools to operationalise these impact measurement and monitoring approaches, which will likely be new to them. Methodologies applied in systems change interventions should be adapted to the context of ESOs, and approaches such as outcome harvesting[6] can be used to capture results as they emerge in unpredictable contexts.

2. Support the Entrepreneurial Ecosystem

With strong ESOs delivering effective support to entrepreneurs while mediating between the startup community layer and EE layer, funders have a role to play in strengthening the broader environment in which they operate, the EE. The following recommendations provide practical approaches to achieve this based on the research.

a) Enable collaboration and convening activities within and across national EEs

ESOs are well placed to intermediate between the startup community and EE actors. At the same time, Funders are well positioned to convene and build trust and relationships across diverse EE stakeholders. This includes among ESOs as peers, collaborators, and competitors as well as between ESOs and other actors, including government agencies, business networks, universities, and corporations. Funders can apply a broad lens and coordinate activities between players by enabling convening activities and by identifying and enabling opportunities for collaboration. Funders can also connect across national, regional, and global EEs for 'access to ideas, networks, knowledge and scaling opportunities' (UNFCCC, 2018).

b) Facilitate successful entrepreneurs to share knowledge, capital and other resources with upcoming founders

Beyond ensuring entrepreneurs are the customer and driving demand of ESO activities, research has also demonstrated a positive feedback loop that can occur in EEs when successful entrepreneurs who have reached scale recycle resources back into the EE by becoming mentors and investors of the next generation of founders, improving performance outcomes (Endeavour, 2018). ESOs and funders can look for opportunities or leverage points within a given EE to exploit such positive feedback loops. In such cases, small inputs can lead to significant outcomes, but measurement needs to move away from the traditional approach of counting hours of mentoring to considerations such as who the mentors are and how accessible mentoring opportunities are to experienced founders.

6. Outcome harvesting is a complexity-aware approach to monitoring in which participants 'collect' or ('harvest') evidence of what has changed ('outcomes') and then, working backward, determine whether and how an intervention has contributed to these changes,' BetterEvaluation. (2020, August 4). Outcome Harvesting. Accessed here.

Successful founders should also be invited by ESOs into positions of influence, for example as board members. The same research also demonstrated that EEs in which successful founders have greater influence are more effective than those in which influencers do not have entrepreneurial experience.

c) Grow transformative capabilities of ESOs in applying a diversity, equity, and inclusion (DEI) lens

Funders can work with ESOs as critical partners in pursuing long-term, sustainable development outcomes, such as reducing inequality within and among countries. Research demonstrates that with explicit intention and design, ESOs can help reduce existing inequalities in entrepreneurship (see page 7). Yet there is a gap in capacity within ESOs based in SSEA, according to previous evaluations with Scaling Frontier Innovation (Frontier Incubators Interim Results, 2020). If ESOs and funders are aligned in their goals to reduce inequalities, funders can support ESOs to build capacity and apply a DEI lens to their organisation, programming, and ecosystem-building activities. ESOs with strengths in these capabilities are effective partners in building capabilities, illustrated through the Gender Lens Incubators and Accelerators toolkit, a collaboration between the Sasakawa Peace Foundation's Asia, Women Impact Fund, and Frontier Incubators. Public goods such as these are one example of how ESOs and funders can help shift the role of ESOs to support sustainability.

d) Support the development of public goods and knowledge exchange

Complex adaptive systems adapt and learn through interactions and knowledge exchange, and peer learning and exchange is a principle for operating in EEs. Supporting the development of public goods and other alternatives for knowledge exchange between peers and actors in the EE can ensure continuous learning from experimentation and institutional knowledge.

e) Support evidence generation and storytelling of the intermediary role of ESOs

The research revealed that the majority of evidence generated on the value of ESOs is focused on the programming and firm level, with limited research on the value of ESOs in ecosystem strengthening, particularly in emerging markets. In academic research, work to investigate EEs as complex adaptive systems is also nascent. Funders looking to strengthen EEs and working with experienced and effective ESOs playing an intermediary role can contribute by supporting evidence generation and improved storytelling on their role and disseminating this within and across stakeholders and ecosystems.

If these recommendations are carried out, the research and evidence points to a future reality in which sustainable and successful ESOs are able to step into a role that goes beyond entrepreneur development and into intermediation between the startup community and the entrepreneurial ecosystem. As a result, decision-making and influence in the system will be situated locally and within the startup community, and the needs of entrepreneurs will be articulated to other actors, such as finance providers, business service providers, and government agencies, who will better understand how to provide services tailored to their needs.

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Annex 1: Key Informant Interviews

Arun Venkatesan, Co-Founder & CEO, Villgro USA, United States

Harry Devonshire, Evaluation & Learning Manager, Argidius Foundation, Switzerland

Fai Wechayachai, Regional Chapter Manager (East and Southeast Asia), ANDE, Thailand

Juan Carlos Thomas, Global Entrepreneurship Director, Technoserve

Kaung Sitt, Market Engagement Manager, GSMA Ecosystem Accelerator, Singapore

Kevin Robbins, RISE Team Leader, Swisscontact, Cambodia

Sokhuy Lay, RISE Lead Technical Assistance Manager, Swisscontact, Cambodia

Mehvish Arifeen, CEO, Invest2Innovate, Pakistan

Melanie Mossard, Director of Entrepreneurship & Innovation, Impact Hub Phnom Penh, Cambodia

Romy Cahyadi, Co-Founder & CEO, Instellar, Indonesia

Timothy Stewart, Deputy Team Leader, Impact Private Sector Partnerships, Palladium, Australia