

Science and Technology Trends

Fostering Startup Ecosystems

Malaysia's Startup Ecosystem: A Work in Progress

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1. Introduction

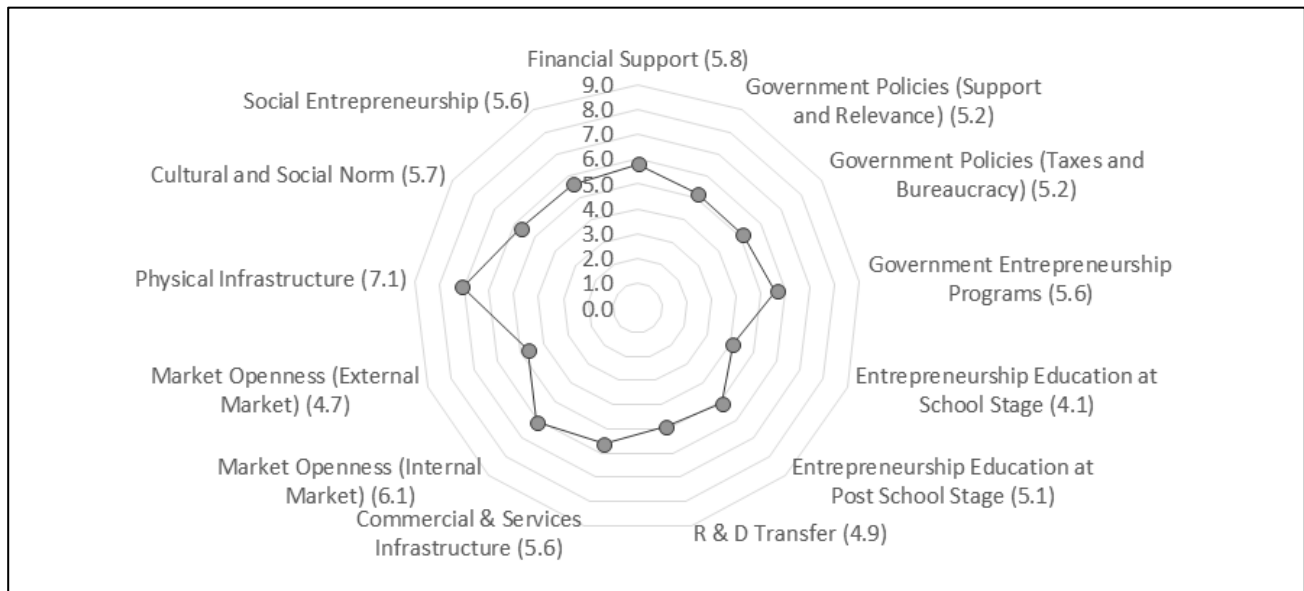
The startup ecosystem in any nation is subject to and formed by numerous factors. It would be naïve to suggest a fixed formula given that both the external and internal scenarios are in dynamic flux. The challenges faced by startups may be due to a number of factors relating to lack of resources (finance, technology, skilled labor), the scale of their businesses, that is, lack of economies of scale and scope, lack of networks, higher transaction costs relative to large enterprises, and experience of domestic and international markets and lack of entrepreneurial zeal and knowhow. Added challenges may include their locations which may be less than ideal due to the geography and political delineations that contain those economies. These factors can add up to a substantial competitive disadvantage.

Given those challenges this brief discussion will firstly ascertain Malaysia's current entrepreneurial context via a review of its entrepreneurial framework conditions and its early stage entrepreneurial activity i.e. startup rates. Then the current ecosystem will be reviewed highlighting the basic ecosystem necessities that have been installed. Lastly

recommendations are put forward, given the gaps identified, whilst emphasizing greater attention for initiatives that can better support a startup ecosystem.

2. Malaysia's Entrepreneurial Framework Conditions

It is important to have a gauge that allows for an understanding of where one is. In Malaysia one method of assessment is afforded by the Global Entrepreneurship Monitors (GEM) methodology. This survey research comprises The National Entrepreneurship Survey (NES) and the Adult Population Survey (APS) and it allows for a comparison of the results between opinions of the experts and the behavior of a population i.e. its attitudes, aspirations and activity. This provides interesting information given that, in many cases, their opinions differ, especially with regards to the existence of entrepreneurial opportunities or to the entrepreneurial capacity of each nation. These differences are useful for policy makers to help them adjust and improve the strategy and design of public

Figure 1. Expert ratings on Malaysia's entrepreneurship framework conditions (2015)

policies to encourage entrepreneurship, to improve entrepreneurial education, to analyse market conditions and other relevant aspects which have a profound effect on the business creation processes. A key starting point for Malaysia is an assessment of its Entrepreneurial Framework Conditions (EFCs) which captures a set of factors that shape entrepreneurial activity as illustrated in Figure 1.

This is different for each country as their context is necessarily nuanced differently with unique consequences (see Appendix A for country comparisons).

The NES used to survey the above conditions was carefully designed and refined to capture informed judgments of national key informants regarding the status of EFCs in their own countries. National and regional experts were selected on the basis of reputation and experience.

The EFCs can be considered an indispensable part of the puzzle in understanding business creation. The state of these conditions directly influences the existence of entrepreneurial opportunities and entrepreneurial capacity and preferences, which in turn determines business dynamics.

The first EFC reviewed is Entrepreneurial Finance. This refers to the availability of financial resources—equity and debt—for small and medium enterprises (SMEs) (including grants and subsidies). Based on the GEM global report 2015, Guatemala is lowest and Malaysia is highest followed by India. Finance for entrepreneurship is a key condition for entrepreneurship where government support can make a real difference.

National policy refers to the extent to which public policies give support to entrepreneurship. This EFC has two components. Firstly the general policy of governments i.e. where entrepreneurship is treated as an important factor for economic growth. Malaysia's experts obviously do not regard their government's general policy for entrepreneurship as sufficient (it is ranked 10th) as compared to Belgium which scores the highest and Korea the second highest of the 62 economies surveyed. Secondly the national policy concerns regulations for entrepreneurship i.e. where taxes or regulations are either size-neutral or encourage new and small and medium enterprises. Regulations and taxes can stifle growth for established organisations but new

and smaller or even micro enterprises will usually not be able to survive. In national regulations Switzerland scored the highest and Malaysia is ranked 7th.

Government entrepreneurship programs refers the presence and quality of programs directly assisting SMEs at all levels of government (national, regional and municipal). Such programs range from skills training to networking opportunities for entrepreneurs. Malaysia ranks 5th, Korea 10th and Luxembourg ranks the highest.

Entrepreneurship education is measured in two segments i.e. entrepreneurship education in primary and secondary schools and entrepreneurship education in institutions of higher learning or post-secondary levels. This would include vocational and technical colleges, universities and business schools. It considers the extent to which training in creating or managing SMEs is incorporated within the education and training system at all levels. Interestingly the opinion of experts (within each country) rated Malaysia 13th for school and 11th for post school stages whilst Philippines was rated highest for post school and 2nd highest for school stage. This underscores a key shortcoming in Malaysia's EFC.

R&D transfer here refers to the extent to which national research and development will lead to new commercial opportunities and is available to SMEs. This is important for creating and infusing innovation into SMEs. Malaysia was ranked 5th and Switzerland was ranked 1st. The Global Competitiveness Report considers Innovation and Business sophistication as the two key pillars for an innovation-driven economy, and R&D transfer support by governments will feed directly into this.

Commercial and Legal Infrastructure is rated based on the presence of property rights, commercial, accounting and other legal and assessment services and institutions that support or promote SMEs. Malaysia was ranked 12th and Canada the highest.

Entry regulations is measured across two key components. Firstly Market Dynamics which is the level of change in markets from year to year. Market changes refers to changes seen in markets for consumer and business to business goods and services. Malaysia experiences lower changes and is ranked 10th whereas Korea is ranked 1st followed by China as the 2nd. Secondly Market Openness indicates the extent to which new firms are free to enter existing markets. A lack of anti-trust legislation, high cost of market entry and other blockages can prevent the new firms from entry into markets. Malaysia is ranked 13th and Netherlands is ranked the highest.

Physical Infrastructure refers to the ease of access to physical resources-communication, utilities, transportation, land or space at a price that does not discriminate against SMEs or startups. Malaysia is ranked 9th and Switzerland is ranked the highest for this EFC.

Cultural and Social norms indicates the extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income. Risk taking propensity, creativity and innovation and locus of control are some of the key measures of an entrepreneurial culture. Malaysia ranked 8th and Israel was ranked the highest for entrepreneurial culture by their experts.

The EFC comparisons across 62 countries that conducted the GEM study provides a measurement, comparison and benchmarking for Malaysia. It provides a starting point for understanding the ecosystem within which Malaysian startups operate. The tables in Appendix A below will provide a wider global view as each countries EFC is traced against EFC's of countries across differing economic stages i.e. factor-driven, efficiency-driven and innovation-driven type economies.

3. Startups and Total Early Stage Entrepreneurial Activity

A primary measure of entrepreneurship used by GEM is the Total Early-Stage Entrepreneurial Activity (TEA) rate. TEA indicates the prevalence of individuals engaged in nascent entrepreneurship and new firm ownership in the adult (18 - 64 years of age) population. As such, it captures the level of dynamic early-stage entrepreneurial activity in a country and this does allow for an objective assessment of Malaysian startup activity.

Every person engaged in any behaviour related to new business creation, no matter how modest, contributes to the national level of entrepreneurship. However, it is important to recognise that startups and entrepreneurs can differ in their profiles and impact. GEM uses a range of indicators that describe the unique, multifaceted pattern exhibited in each society. It is therefore important to consider not just the number of entrepreneurs in an economy, but other aspects such as the level of employment they create, their growth ambitions, and the extent to

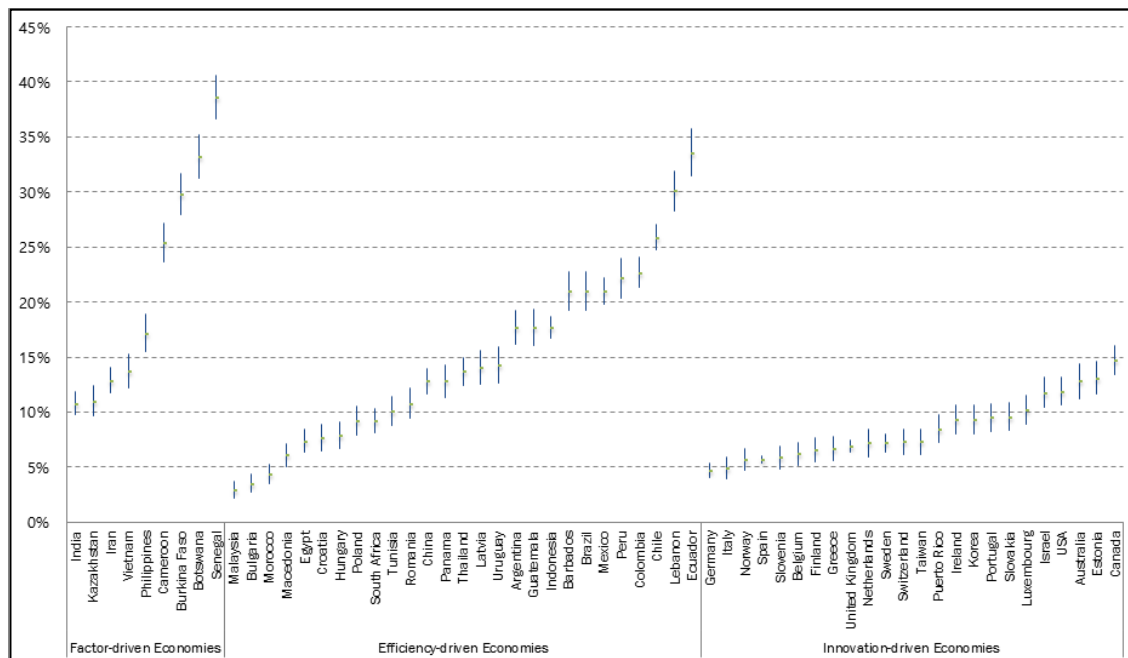
which groups such as youth and women are participating in entrepreneurial activity when considering an entrepreneurship ecosystem.

Figure 2 below outlines the TEA rates by economic development.

Malaysia is rated highly by Global Entrepreneurship Monitor (GEM) experts for its good infrastructure, access to finance and good internal market dynamics (GEM, 2015). Added to this, the SME sector has been growing in the last decade, having outpaced economic growth.

This has helped push up the contribution the sector makes to the gross domestic product (GDP) (SME, 2014). Despite this, fewer Malaysians are starting new businesses. When compared to similar economies, the country has a low and declining early-stage entrepreneurship (TEA) rate, having fallen from 7.0% in 2012 to just 2.9% in 2015. This has been accompanied by a decline in the number of Malaysian adults that view entrepreneurship as a good career choice (Timm, 2015; Malaysian Policy Brief, 2016, publication pending).

Figure 2. TEA rates by economic development (GEM, 2015)



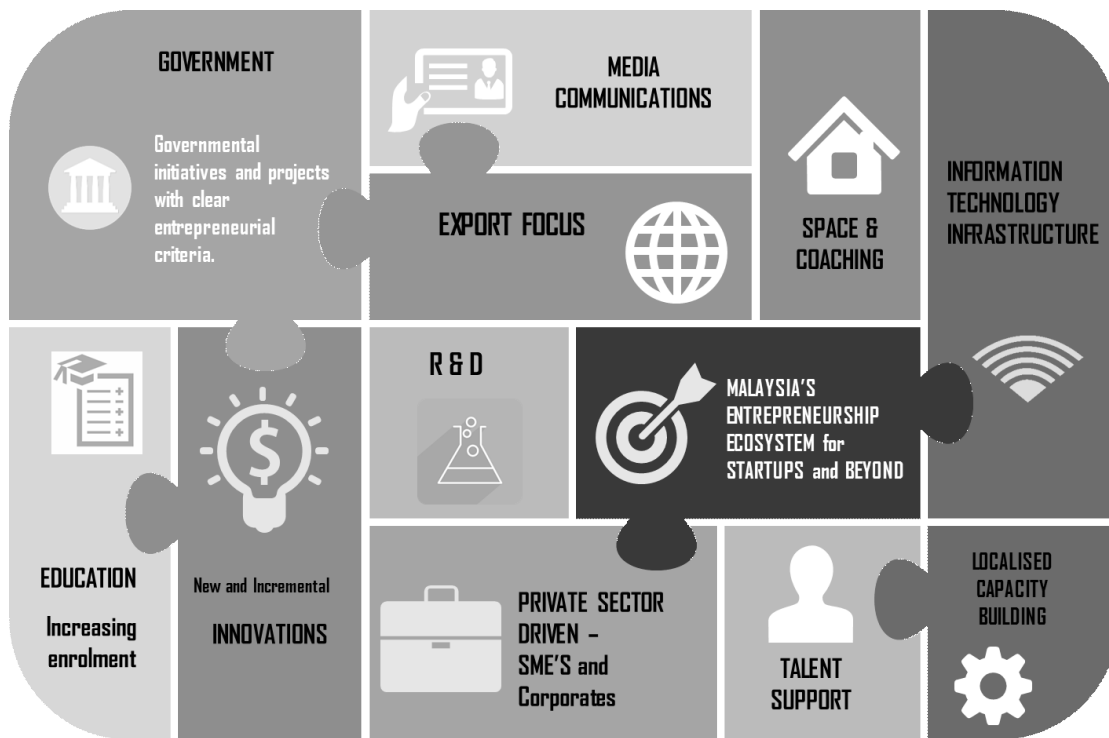
4. Malaysia's Entrepreneurial Ecosystem: Meeting the Bare Necessities

Malaysia has been fortunate as government policy has been geared towards providing the key fundamentals for entrepreneurial development especially for startups. Figure 3 below briefly illustrates the Malaysian ecosystem installed via government policies and

private sector initiatives to enable such support.

The below fundamental eleven factors has allowed startups in Malaysia a supportive environment. However based on our above analysis and experts feedback some aspects of the above ecosystem will require improvements or added emphasis when bench-marked against the global economy.

Figure 3. Malaysia's entrepreneurship ecosystem to build overall entrepreneurial capacity and foster startups



5. Conclusions and Recommendations

It is often questioned to what extent government should be involved. There have been numerous arguments for and against government as mere gate-keepers and to a limited extent as gate constructors. However the latest longitudinal studies do show that government policies, rightly engaged, can boost high-growth entrepreneurship. It has been shown that policy initiatives that are selective, impose milestones and focus on capacity boosting are able to accelerate

new firm growth (Autio and Rannikko, 2016).

The TEA in Malaysia is low and it is indicative of fewer new startups. This is not necessarily a negative. Rather Malaysia now needs to emphasize quality over quantity of startups. Again we need to start from where we are rather than simply adopting 'successful' approaches other nations have applied. Economies are diverse in terms of level of economic development, including factor-driven, efficiency-driven and even innovation-driven economies (based on the World Economic Forum's (WEF) Global

Competitiveness Report categories). Using an assessment of the challenges and successes in other economies in each of these categories, some key policy improvement opportunities for Malaysia as an efficiency-driven economy in transition to an innovation economy is to;

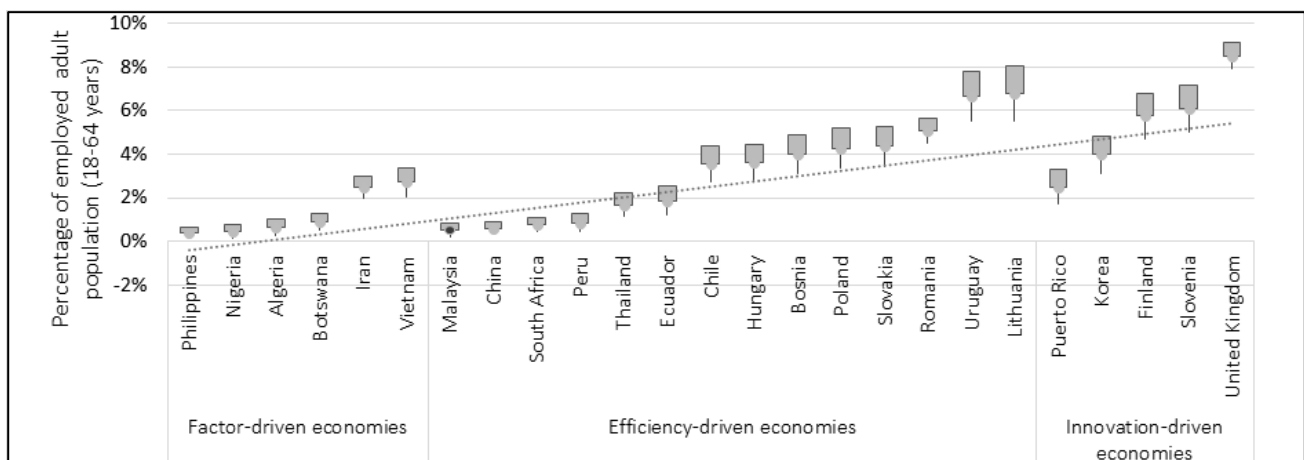
- Emphasize Science, Technology, Engineering and Math (STEM) learning along with creativity and innovation management.
- Encourage and incentivise innovation especially technology-based innovation in startups.
- Emphasize high growth and sustainability type opportunities; think scalability, replicability and long tailed type operations.
- Assist startups in linking into global economies (e.g. USA, China and India) to become part of the growing global supply chains of multinationals.
- Support/move startups into value-addition sectors with an emphasis on higher end services e.g. finance, insurance, taxation and integration services.
- Work towards quality of enterprises as opposed to quantity. Support R&D efforts that offer high end growth opportunities that create regional/global companies. The result will be much less new businesses but the quality of those who actually startup will be higher and

consequently result in higher job creation and sustainability. This is where we need to infuse our resources. The global scenario does offer many lessons including that it is not the quantity of businesses that matter but the high growth value added quality that counts (Shane, 2009).

- Encourage greater collaboration with regional and international R&D initiatives.
- Attract, incentivise and retain talent for key industries that are strategically important for the economy, thus emphasizing Entrepreneurial Employees Activity (EEA), where Malaysia has a low score, as much as independent new business activities (see Figure 4 below).

The solution would be to recalibrate our emphasis and make the entrepreneurial employee activity (EEA) (GEM, 2013) equally important. Entrepreneurial Employee Activity or EEA is defined by the GEM EEA Report 2013 as ‘employees developing new activities for their main employer, such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary. The scope adopted is therefore broader than new organization creation; however it excludes employee initiatives that mainly aim at optimizing internal work processes’.

Figure 4. Entrepreneurial Employee Activity (EEA), by phase of economic development



This employee working within an organisation could be provided the same incentives as given to new startups. However it will be for innovation efforts or spin off organisation for their employers. This approach has the added benefit of the EEA having a mentor in addition to other subsidiary resources for the new spin off venture. New monitoring mechanisms may be put in place that ensures that both the employer and employee benefits. The employee benefitting is an important aspect as they are the source of ideas and innovation and should be the ones working the project.

Based on the inherent shortcomings and challenges for Malaysia we can sum up the opportunities for a cascading national entrepreneurship policy, strategy and focus as follows in Figure 5 below.

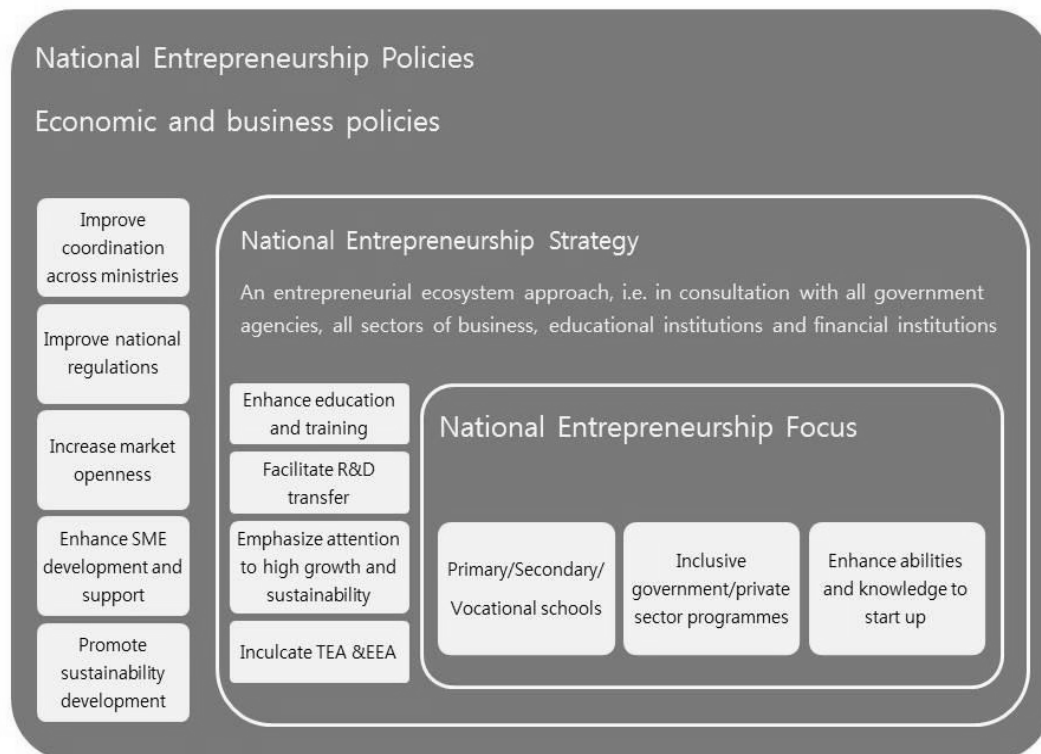
The future challenges for Malaysia is to close the gaps within the Entrepreneurship Framework conditions. This will require a rethink and revamp of our national entrepreneurship policies as regards our economic and business climate. Key areas would include to improve the coordination amongst ministries, improve national

regulations, increase market openness, enhance SME development and support policies and promote sustainable development. Sustainability development here refers to women and youth entrepreneurship focus, environmental protection and continuous evaluation of the effectiveness of implementation and meeting of expected outcomes both for startups and entrepreneurial employees.

The above assessment and recommendations will require keen motivations that can further build on some of the successes Malaysia has gained thus far. Fortunately Malaysia has both a keen private sector and a motivated government that continue to play a positive role in developing its ecosystem.

A statement by Prof. Datuk Seri Dr. Md Zabid Haji Abdul Rashid (President & Vice Chancellor, Universiti Tun Abdul Razak) sums up this position when he stated, “A nation needs to have an entrepreneurial ecosystem whilst inculcating within its citizens an entrepreneurial mind-set. This is largely achieved by a proactive government that facilitates and enables private sector-driven initiatives.”

Figure 5. A Proposal of a Cascading National Entrepreneurship Policy, Strategy and Focus Approach for Malaysia



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Appendix A

Entrepreneurial framework conditions, by region, 2015 (Weighted average: 1 = highly insufficient, 9 = highly sufficient)													
Economy	Stage	1	2a	2b	3	4a	4b	5	6	7a	7b	8	9
Botswana	2	4.1	4.2	4.1	4.1	4.2	4.9	3.8	4.2	4.9	3.5	5.0	4.7
Burkina Faso	1	3.6	3.7	4.7	4.0	1.9	4.6	2.9	4.9	4.4	3.8	4.8	4.7
Cameroon	1	3.6	4.5	3.8	4.4	3.0	4.7	3.6	5.2	4.1	4.0	5.1	4.7
Egypt	3	3.5	3.3	3.1	3.3	1.6	3.1	2.9	4.2	5.1	3.8	6.3	3.8
Morocco	3	4.3	3.6	3.6	3.8	1.8	3.3	3.1	5.0	4.7	3.7	7.0	3.7
Senegal	1	3.6	4.1	4.9	4.1	1.8	3.9	2.4	5.3	3.3	3.9	6.4	3.8
South Africa	3	4.0	4.1	3.1	3.0	3.1	4.2	3.4	4.9	4.5	3.9	5.9	3.4
Tunisia	3	4.2	4.1	2.7	3.6	1.7	3.4	2.8	5.8	6.9	2.9	6.7	4.1
Africa		3.8	3.9	3.7	3.8	2.4	4.0	3.1	4.9	4.7	3.7	5.9	4.1
Australia	5	4.0	3.7	4.2	4.2	3.7	4.2	3.7	5.1	4.7	4.7	6.5	4.8
China	3	4.9	5.8	4.4	4.4	2.6	5.0	4.1	4.3	7.2	4.3	6.9	5.0
India	1	5.7	5.5	3.9	4.5	4.1	5.1	4.3	5.0	5.7	4.8	6.2	5.5
Indonesia	3	4.9	5.1	4.4	4.8	4.4	5.9	4.9	4.8	6.2	4.6	5.2	5.8
Iran	2	3.3	3.8	3.3	2.1	2.8	3.4	3.0	2.8	5.9	3.1	6.6	3.7
Israel	5	5.1	3.7	2.5	3.9	3.0	4.3	4.4	5.6	4.1	3.5	6.4	7.4
Kazakhstan	4	3.6	5.3	4.5	4.3	3.5	4.3	3.1	4.8	6.0	4.1	5.9	5.0
Korea, Republic of	5	3.9	5.8	4.6	5.0	2.8	4.0	3.6	4.0	7.3	3.3	7.0	4.9
Lebanon	4	5.2	3.3	4.1	4.2	4.3	4.9	4.2	5.6	4.4	4.2	4.4	6.3
Malaysia	4	5.8	5.2	5.2	5.6	4.1	5.2	4.9	5.6	6.1	4.7	7.2	5.8
Philippines	2	5.1	3.9	2.9	3.6	5.0	6.3	4.1	5.2	6.1	4.1	5.5	5.7
Taiwan	5	4.7	4.4	4.5	4.1	2.9	4.2	4.1	4.4	5.8	4.2	7.3	4.8
Thailand	3	4.2	4.0	4.0	3.7	3.6	4.3	3.9	4.8	6.4	4.1	6.4	5.5
Vietnam	1	3.5	4.3	4.6	3.5	2.5	4.2	3.9	4.7	6.1	4.2	6.9	5.4
Asia&Oceania		4.5	4.6	4.0	4.1	3.4	4.7	4.1	4.7	5.9	4.1	6.3	5.3
Argentina	4	3.1	3.0	1.9	3.7	3.0	4.8	3.7	4.7	5.6	3.8	5.8	4.9
Barbados	4	3.1	3.7	2.5	3.5	2.6	4.5	2.9	4.8	4.4	3.6	6.1	4.3
Brazil	4	3.9	3.7	2.2	3.4	2.1	3.8	2.9	4.2	5.0	3.5	4.7	3.9
Chile	4	3.5	4.6	5.4	5.4	2.4	4.9	3.5	4.7	3.4	3.8	7.5	5.1
Colombia	3	3.2	3.8	3.4	4.3	2.9	5.3	3.5	4.1	4.1	4.2	6.2	5.2
Ecuador	3	3.4	4.7	3.2	4.4	3.7	6.2	3.7	4.9	3.7	4.2	7.6	5.8
Guatemala	3	2.8	2.6	3.2	3.3	2.1	4.6	2.8	4.2	3.2	3.3	6.1	4.3
Mexico	4	4.0	4.8	3.7	5.1	2.6	5.4	4.1	4.7	5.4	3.6	6.3	5.0
Panama	4	3.3	2.7	5.5	3.7	1.9	3.7	3.2	4.4	4.2	4.4	7.1	5.2
Peru	3	3.0	3.1	3.0	3.7	3.0	5.0	3.0	3.7	3.8	3.8	5.6	5.0
Puerto Rico	5	3.3	4.1	2.2	3.3	2.0	4.2	2.9	4.6	4.3	3.7	5.5	3.8

Uruguay	4	3.7	3.4	3.7	5.1	2.0	4.6	4.2	5.1	3.2	4.1	6.2	3.6
Latin America & Caribbean		3.4	3.7	3.3	4.1	2.5	4.8	3.4	4.5	4.2	3.8	6.2	4.7
Belgium	5	5.3	6.5	3.2	4.8	3.1	5.4	4.6	6.2	4.8	5.1	6.4	4.1
Bulgaria	3	4.4	2.9	4.8	3.4	2.6	4.2	3.6	5.2	3.6	3.9	6.8	3.5
Croatia	4	3.3	2.8	2.0	3.2	1.9	3.5	2.9	4.3	6.1	3.0	6.5	2.6
Estonia	5	4.9	3.8	4.9	4.9	4.2	4.8	4.5	5.2	5.2	5.1	7.5	5.7
Finland	5	4.3	5.4	4.9	4.6	3.9	4.2	3.9	5.7	5.4	4.6	7.6	4.5
Germany	5	4.3	4.3	3.9	5.6	2.7	4.1	4.0	5.9	4.5	5.2	6.4	4.2
Greece	5	3.0	2.9	2.3	2.8	2.7	4.6	3.8	4.5	5.0	3.1	6.1	3.6
Hungary	4	4.0	2.7	2.4	3.2	2.3	4.3	3.6	4.4	5.5	3.8	6.1	3.2
Ireland	5	5.4	4.9	4.8	5.9	3.6	4.9	4.6	6.1	3.9	5.2	6.8	5.4
Italy	5	4.0	3.1	2.4	3.3	3.0	4.3	3.9	4.3	4.3	4.2	5.1	3.5
Japan	5	4.2	5.0	3.7	4.1	2.3	4.2	4.5	3.5	6.5	4.3	6.9	3.8
Latvia	4	4.5	3.7	3.8	4.7	4.0	5.4	3.5	6.1	4.8	4.5	6.7	4.8
Luxembourg	5	4.1	5.3	5.6	6.0	3.5	5.4	5.4	6.0	3.8	5.5	6.8	4.1
Macedonia	3	4.0	4.0	4.6	4.4	3.6	4.9	4.1	5.1	5.7	3.7	6.5	4.1
Netherlands	5	5.7	5.4	5.8	5.8	4.9	5.6	5.1	5.9	5.0	6.0	7.4	5.7
Norway	5	4.2	3.7	4.3	4.4	4.1	4.1	4.2	5.5	5.2	4.2	6.8	4.7
Poland	4	4.7	4.6	3.4	4.6	2.5	3.9	3.5	4.5	6.4	4.6	6.8	4.4
Portugal	5	4.7	5.0	5.8	4.7	5.6	4.7	5.3	4.6	5.4	5.0	3.5	5.2
Romania	3	3.4	3.6	3.5	3.8	3.9	4.5	3.7	6.0	4.2	4.0	4.9	4.1
Slovakia	4	4.3	3.7	3.4	3.7	3.4	4.2	3.2	5.5	4.1	4.2	7.0	3.5
Slovenia	5	4.2	4.0	3.1	4.5	2.8	3.9	3.8	4.7	5.3	3.8	6.4	3.4
Spain	5	4.0	4.0	3.8	4.8	3.5	4.2	3.9	4.4	4.4	4.3	5.1	4.4
Sweden	5	4.7	4.0	3.9	4.6	3.8	3.9	4.0	5.1	5.7	4.5	7.5	5.0
Switzerland	5	5.3	5.7	5.8	5.9	4.9	6.2	6.2	6.3	4.5	5.7	7.9	5.8
Turkey	4	3.8	4.4	3.4	4.1	2.2	5.2	4.2	5.1	5.6	3.9	6.5	5.3
United Kingdom	5	5.4	4.6	4.4	4.5	4.0	5.0	4.2	5.0	5.0	4.7	5.9	5.3
Europe		4.4	4.2	4.0	4.5	3.5	4.6	4.1	5.3	4.9	4.5	6.4	4.4
Canada	5	5.2	4.7	5.2	5.0	4.1	5.3	4.3	6.3	3.8	4.9	7.0	5.9
USA	5	5.4	4.4	4.6	4.1	3.5	4.4	4.2	5.4	5.6	4.4	7.1	6.8
North America		5.3	4.5	4.9	4.5	3.8	4.8	4.2	5.9	4.7	4.6	7.0	6.4
GEM		4.2	4.2	3.9	4.3	3.1	4.5	3.8	4.9	5.1	4.1	6.3	4.7

- 1 Entrepreneurial finance
- 2a Government policies: support and relevance
- 2b Government policies: taxes and bureaucracy
- 3 Government entrepreneurship programs
- 4a Entrepreneurial education at school stage
- 4b Entrepreneurial education at post school stage
- 5 R&D Transfer
- 6 Commercial and legal infrastructure
- 7a Internal market dynamics
- 7b Internal market burdens or entry regulation
- 8 Physical infrastructures
- 9 Cultural and social norms

Development stages

- 1 factor driven
- 2 transition to efficiency driven
- 3 efficiency driven,
- 4 transition to innovation driven
- 5 innovation driven