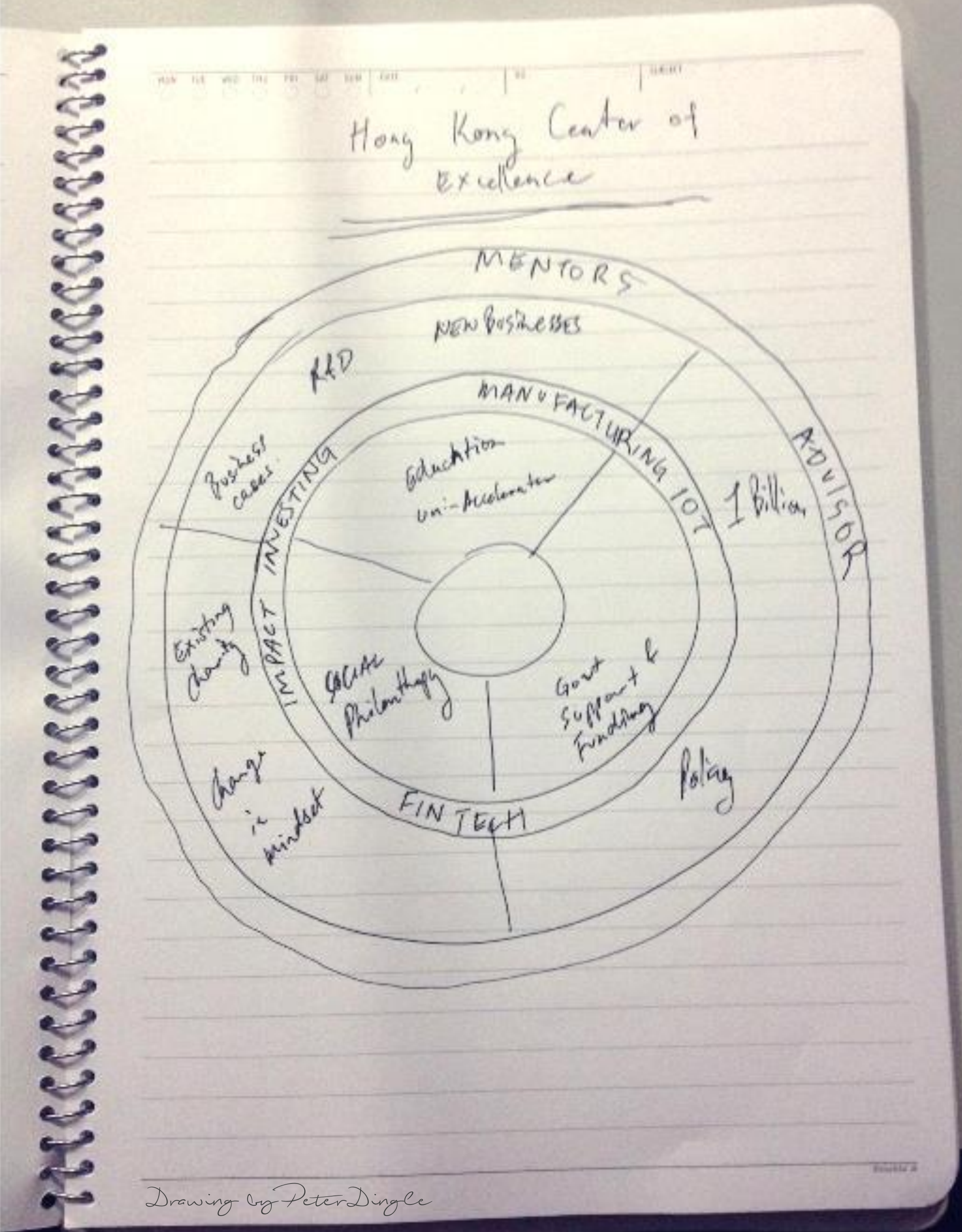

Drawing by Peter Dingle

CROUCHING TIGERS, HIDDEN DRAGONS

Eight action plans for invigorating Hong Kong's startups & awakening local innovation

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Executive Summary

Recent years saw a tremendous increase in activities that aim to foster entrepreneurial spirit of Hong Kong. Many new stakeholder groups, such as co-working spaces, business angel groups, startup incubators, or crowd-funding platforms, have embraced their roles in nurturing local startups. Universities and government bodies have revamped their programs as well and have put more emphasis on knowledge and innovation transfer activities to encourage new cohorts of entrepreneurs to enter the scene.

Yet, Hong Kong is still struggling to overcome, what many locals call, the "Values of Central". Getting rich quickly, investing solely with own benefit in mind, or focusing on maximizing the profit, these are the attitudes that contribute to the short-term outlook driving many business and developmental activities in Hong Kong. Not surprisingly, "Values of Central" put a mental blockage and create barriers to the development of a more vibrant and diverse entrepreneurial scene, which is often far from being upscale and resource-rich.

Local dragons, or fast-growing and insatiable startups with an appetite for the worldwide market, remain hidden from the public eye. Local tigers, or innovative and agile startups capable of turning their industries upside down, are crouching, waiting for the perfect moment to overrule the short-term mentality of their peers and local stakeholders.

The efforts to revive the entrepreneurship scene of Hong Kong we are currently observing are the first step forward towards stimulating the dynamism, open mind, and community spirit in local society. They are the first step towards giving wings to our dragons and encouraging our tigers to spring into their first big jump.

All they need is our encouragement and help. In return, the development of as little as two percent of newly registered Hong Kong businesses per year would impact local economy in the next 4 years by:

- Introducing 11,480 stronger high-potential startups into the economy, which currently accounts for 3.6% of all companies with less than 10 employees;
- Creating over 338,800 new jobs locally, which accounts for 41.5% of current employment in firms with less than 10 employees;
- Increasing Hong Kong's GDP by additional 0.24%, which accounts for 1.02% of GDP currently created by companies with less than 10 employees;
- Filing 7,800 new IP applications for patents, trademarks or designs.

In this report, we have devised eight action plans to address systematic challenges to strengthening local entrepreneurship. All recommendations are designed to create positive change in public acceptance, social capital, human capital, and organization of the startup ecology. Together, they constitute the "Wheel of Change" framework, formulated to address the development needs of Hong Kong's startup ecosystem. The following action plans are offered:

1. Awaken the dormant entrepreneurial spirit
2. Battle the short-term mentality
3. Give back to the community
4. Encourage synergies in the startup support ecosystem
5. Build on an excellent infrastructure
6. Refine the administrative rigor
7. Relay the creative spark
8. Ignite the self-propelling cycle of innovation

We discuss each of the action plans below.

Awaken the dormant entrepreneurial spirit. Hong Kong's dormant entrepreneurial spirit is the result of the inculcated risk-aversion, good economic conditions, and an overbearing peer pressure from the friends and family of potential entrepreneurs against launching own businesses. The entrepreneurial spirit of Hong Kong could be brought back to life through a more intensive engagement from the media, co-working spaces, and the entrepreneurial community.

Battle the Short-term Mentality. Short-term mentality of local population also constitutes a barrier to increasing the entrepreneurship rates. It spurs from Hong Kong's aging population characteristics as well as from city's geographical position, trading background, and historical circumstances. Short-term mentality impacts the ways in which investors, government funds, universities, and local population are making choices in developing local entrepreneurship and innovation. Raising the profile of entrepreneurship, involving older generations in mentorship activities, creating collaboration opportunities between startups and investors, and redesigning of government funds and of university programs are potential ways of overcoming the short-term mentality.

Give Back to the Community. Hong Kong's Confucian background contributes to local entrepreneurs' generosity and caters to their need of "giving back to society". We have identified 4 possible ways of leveraging the giving back to help Hong Kong's startups: direct investment, refueling of startup resources, creating of business synergies, and strategic philanthropy. Although change is visible and acknowledged, Hong Kong's well-established businesses are still lagging behind in supporting local startups. Encouraging their involvement through establishing performance yardsticks, legitimizing non-conventional investments, creating business matching service associations, promoting the social value of cooperation, engaging university alumni networks, and opening up the Microfinance Scheme and SME Financing Guarantee Scheme to private investors could be helpful in developing stronger bonds between old and new businesses in Hong Kong.

Encourage Synergies in the Ecosystem. Entrepreneurship support ecosystem of Hong Kong underwent major changes in the past 5 years, tripling in size since 2009. While there are many organizations willing to help local startups, they do not know how to cooperate with each other in creating synergies in startup support activities. Some notable examples of how cooperation can be developed exist; nonetheless, most of organizations in the ecosystem network suffer from a disconnected mindset, which hinders their efforts in helping new firms to develop and grow. Ecosystem network participants need to define their roles as ecosystem leaders, brokers, feeders, supporters, mentors, or information brokers, and shape their activities according to their desirable roles. We can enhance the cooperation in the ecosystem by devising events and support programs that require the involvement of multiple stakeholder groups.

Build on an Excellent Infrastructure. Hong Kong is well prepared for receiving entrepreneurs when it comes to how the local infrastructure and administrative ecology is organized and governed. Its regulations, transparency in administrative decisions, and the rule of law make starting and running a business easier to many. The ease of governance should be reinforced further by increasing the awareness of startup-related challenges among the decision makers.

Refine the Administrative Rigor. There are several areas for improvement that need our attention. Improving communication between strategic and operational administrative activities, relaxing of certain policies, and increasing the understanding of startup needs should help facilitating the development of startups in Hong Kong. Although Hong Kong is constantly working on improving its policies, it requires a further and swifter adjustment in its legal infrastructure to accommodate the fast-paced technological and social developments of the 21st century.

Relay the Creative Spark. Hong Kong is a very creative place, but it does not capitalize on its creativity very well. The creativity could be redirected towards commercial outputs and could maintain local innovation if mentorship programs and general education become more geared towards multidisciplinary enquiry and critical thinking.

Ignite the self-propelling cycle of innovation. Local innovation has been held hostage by misadjusted research and development strategies spanning across public, private, and university sectors. The government is borderline principal sponsor of local research, small local enterprises are not putting enough emphasis on innovation, and universities carry most of the research burden in the economy. As a result, Hong Kong ended up in a vicious circle of "crouching" innovation, whereby innovative outputs go unnoticed in some areas and are limited in others. While local innovation is mostly exported, solutions that are implemented locally are often imitations from abroad, so most of Hong Kong's innovativeness remains incognito. Jail breaking from this circle through encouraging industry R&D spending, promoting of strategic industries, and facilitating entrepreneurial immigration could reverse the cycle and strengthen public recognition for Hong Kong's innovativeness.

In the report we made several recommendations for improving the ecology for local startups in medium-term. Since all elements are, to a large extent, interrelated, their effectiveness would be greater if implemented in a concerted effort. We have also consulted our findings with startup ecosystem participants and sought their input on providing more targeted recommendations for development.

The "Wheel of Change" framework, with its eight action plans, has been put together to help local stakeholders make more informed decisions and inspire closer cooperation between members of the startup ecology. It has been conceived to stimulate involvement from those participants who have not embraced the new way of seeing Hong Kong's economy just yet, who are lagging behind, and who could be inadvertently decelerating the startup ecology. Finally, this framework has been devised as our contribution to the joint effort of improving the local ecology for budding entrepreneurs from Hong Kong and abroad.

It is an exciting time to live in, where one can see the rebirth of Hong Kong's Tigers and Dragons.

Acknowledgements

We would like to thank all participating experts and our colleagues at the Center for Entrepreneurship, as well as Dr. Nell Shen from Shue Yan University, Michael Osofsky, Louis Deng, and Tony Xiao from CUHK, and Elsa Chan from Boulder Colorado for their invaluable help with data collection and coding. Our special thank you goes to Google Hong Kong for making this research possible. Caroline Hsu, Andy Yee, and Betty Wong – your dedication to helping local entrepreneurs is truly inspiring. We are also very grateful to the team of expert workshop contributors – Peter Dingle, Jayne Chan, Irene Leung, and Ara Manuelian – for preparing and drawing the diagram that is adorning the cover of this report. Finally, this study would not be possible without the invaluable help of Cindy Wong, who served as research assistant for the project.

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Introduction

Recent years have seen a quantum jump in activities that aim to foster the entrepreneurial spirit in Hong Kong. Many new stakeholder groups, such as co-working spaces, business angel groups, startup incubators, and crowd-funding platforms, have embraced their roles in nurturing local startups. Universities and government bodies have revamped their programs and put more emphasis on knowledge and innovation transfer activities to encourage new cohorts of entrepreneurs to enter the scene.

Hong Kong was an Asian tiger when its industries took off in the 20th century. Four decades have passed; the tiger has matured and its forest has changed. We now see young crouching tigers - innovative and agile startups capable of turning traditional industries upside down - waiting for the perfect moment, gathering their courage to leap past the mountains and into their own forest.

The efforts to revive entrepreneurship of Hong Kong which we are currently observing are the first step forward towards stimulating dynamism, opening minds, and fostering community spirit in local society. They offer a chance for our new breed of tigers to gather their energy and spring into their first big jump. However, big mountains still separate them from their destiny.

Hong Kong still struggles to overcome what many locals call the “Values of Central”. A large portion of population locally and abroad still thinks of Hong Kong in terms of financial markets, real estate, and upscale retail shops, which are stereotypically tied with Hong Kong’s Central District. Getting rich quickly, investing solely with own return in mind, or squeezing the last penny from customers - these are the attitudes that contribute to the local short-term outlook that drives many business and developmental activities in Hong Kong. New luxury shopping malls replace smaller shops because skilled local artisans can no longer afford the rent, new swanky residential areas replace vibrant local communities who feel out of place in cookie-cutter real estate developments and a large proportion of new local businesses revolve around retail activities to cater to the materialistic side of Hong Kong-bound tourism. And it is not only the rich who believe and practice accordingly: a large part of the local population has also internalized and believes in these values. Thus, they either become cynical and look up to Hong Kong tycoons as a guide for their lifestyles, or feel helpless and live an unfulfilled life, working jobs they do not enjoy.

There is so much more to Hong Kong than Central District. Local creativity remains untapped, local resourcefulness is underexplored, and local culture is unadvertised. Hongkongers are generous charity donors, but their communitarian spirit somehow gets lost in translation in business activities. They are an innovative and hard-working people, but their efforts are too often dissolved in the daily hassle of "getting a big break". The new breed of local dragons, or fast-growing and insatiable startups with an appetite for the worldwide market, remains hidden from the public eye. The nine dragons of Kowloon are waiting for their turn.

Not surprisingly, the "Values of Central" implanted a mental blockage and create barriers to the development of more vibrant and diverse entrepreneurial scene, which is often far from being upscale and resource-rich. The city clearly needs an alternative set of values to accommodate more long-term and community-developing activities to ensure a better future for generations to come. More importantly, it needs a new breed of tigers and dragons to overrule the short-term mentality of their peers and local stakeholders.

This study is our contribution to helping inspire and instill the needed changes. We felt it was essential to do our due diligence and investigate the current state of local startup support and of the economic and social trends that cater to the entrepreneurship community of Hong Kong. Armed with knowledge of the opportunities and challenges that the entrepreneurial ecology faces, we will be better prepared to tackle reality.

The study of Hong Kong's entrepreneurship landscape and ecosystem was launched in April 2014 as a part of the Empowering Young Entrepreneurship (EYE) Program, a cooperative effort between Google Hong Kong and Center for Entrepreneurship at the Chinese University of Hong Kong.

The results of our enquiry have been published in two iterations. The interim report was made publicly available in September 2014 and this final report is reaching your hands in April 2015. Each iteration has a different focus. While the interim report presented a quick snapshot of the ecology and provided a detailed inventory of the stakeholders in the local startup support ecosystem, this final report includes an in-depth analysis of trends, challenges, and opportunities for Hong Kong in fostering entrepreneurship. It also offers recommendations for actors in the local ecosystem on how to leverage their assets in helping local entrepreneurs. To ensure the validity of our findings and relevance of our suggestions, we have consulted our findings with the startup ecosystem stakeholders and incorporated their input into the report.

This report is organized in the following way: first, we uncover the economic and social value of startups to underline the importance of creating a vibrant local startup community. Second, we discuss the framework of "Wheel of Change" that was devised to provide a structure to our eight action plans. Then, we discuss our action plans, which are the response to challenges we have identified throughout the study. Fourth, we provide an overview of conclusions from the expert workshop that has been organized in January 2015 to scrutinize and enrich our findings. Next, we offer a cheat sheet summary of our recommendations, organized by specific stakeholder groups who directly contribute to the development of entrepreneurial community of Hong Kong. Finally, we close our report with a brief overview of the methodology and concluding remarks.

We sincerely hope this report can help inspire the members of Hong Kong's entrepreneurship ecosystem and provide a stronger ground for new initiatives in reviving the local entrepreneurial spirit.

Yours in entrepreneurship,

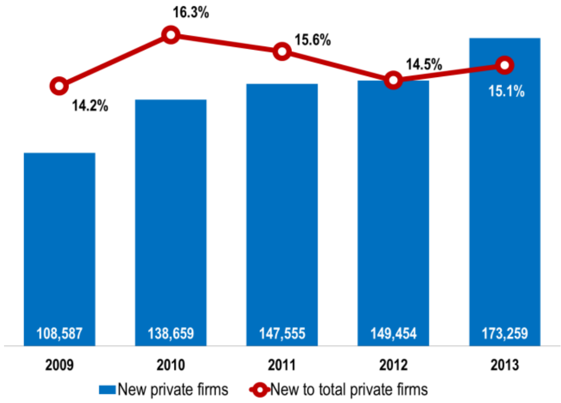
Dr. Marta K. Dowejko & Prof. Kevin Au

Center for Entrepreneurship
The Chinese University of Hong Kong

April 15, 2015

Economic contribution of startups

Figure 1. New private firm incorporation in Hong Kong in 2009 – 2013[1]



Startups impact the economy in multiple ways. They provide jobs, generate wealth, develop intellectual property, introduce innovation, and empower the society. One of the principal objectives of this report is to assess the current and potential impact of local new ventures on Hong Kong's economic and social prosperity. In this way, we will be able to assess whether our efforts of improving the local ecology would have any impact on the economy and society of Hong Kong.

Business Registration. There were, on average, 143,500 private companies registered each year in Hong Kong in years 2009-2013 (Fig. 1). This represents the incorporation rate of almost 12,000 companies per month, accounting for 15% of all private companies registered in Hong Kong. Naturally, not all newly registered companies in Hong Kong could be associated with entrepreneurial activity. Unfortunately, lack of relevant data in this regard makes it difficult to estimate what proportion of new businesses is launched in view of creating employment and conducting business operations. It can, however, serve as a basis for forecasting the business potential of local startups, provided new cohorts of startups are added to the local firm base on a yearly basis.

We use a very conservative estimate of 2% of the 5-year average number of new business registrations amounting to 2,870 newly registered firms per year to provide forecast analyses of the potential impact of startups on the local economy in the next four years[2]. Note that in this forecast exercise we are not considering adding new firms to the ecosystem. Rather, we concentrate on the economic impact of providing support to startups that would have been launched anyway. We use 4 years as a cut-off date to adhere to the universally accepted time demarcation of 3.5 to 4 years that differentiates between startups and other young businesses.

[1] Companies Registry, HKSAR, retrieved in May 2014: http://www.cr.gov.hk/en/statistics/statistics_10.htm

[2] We estimated 2% based on our findings from two sources: from interviews with our experts, where they considered the worst-case scenario in which most of newly registered companies are not true startups and from our own assessment of the feasibility of the support that could be realistically provided to these startups, given the size of local ecology.

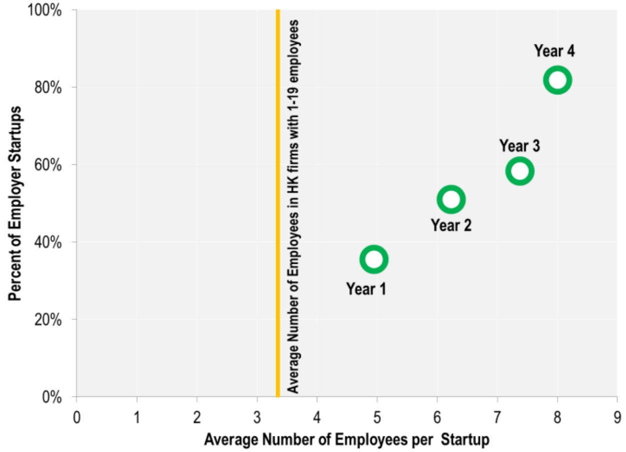
Job Creation. Hong Kong economy reposes on small business. In June 2014, there were 343,731 local firms with less than 20 employees, with the total employment of 1,152,528 persons[3]. They accounted for 95% of all local firms and provided jobs to 42% of Hong Kong's working population.

Most startups fall into this category of firms. In line with findings from other economies, our research on 141 startups of EYE Program participants has revealed that 84% of startups founded not earlier than in 2011 have less than 10 employees and 96% of startups have less than 20 employees.

Our study has also revealed that local startups outperform the general population of Hong Kong firms with less than 20 employees. While local businesses with less than 20 employees hire, on average, 3.35 employees per company, local startups provide more employment to the local population already from the first year of operations (Fig. 2).

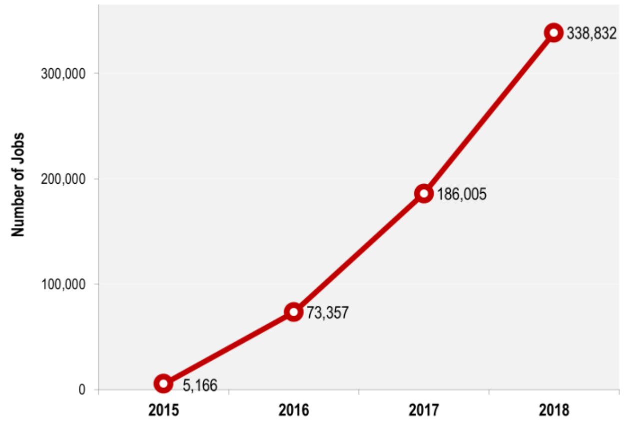
Startups in our sample had from 3 to 4 founders on avergage. Over one third of these startups, or 36%, hired, on average, 3 employees in their first year of operations. Older startups, or those in their fourth year of operations, reported higher employment rates, with 82% of startups hiring, on average, 6 employees to supplement the work of firm's cofounders.

Figure 2.Employment in local startups in the first 4 years of operations[4].



Based on these numbers, our forecast has revealed that Hong Kong startups have the potential to contribute over **338,800 jobs** in just 4 years, which would account for 12% of Hong Kong's current employment and add as much as 29% of employment in companies with less than 20 employees and 41.5% for companies with lessthan 10 employees respectively (Fig. 3). Encouraging and supporting the activities of only 2% of new firms being launched in Hong Kong every year to develop their competencies within respective industries would have a high potential impact on the local economy in providing employment to local population.

Figure 3. Potential job creation capacity of local startups[5]



Wealth Creation. Local micro businesses with less than 10 employees contributed in value added HK$ 211,948.37 million to the local economy, which amounted to 10.4% of Hong Kong's GDP in 2012[6]. It represented

[3]Census and Statistics Department. (June 2014). Quarterly Report of Employment and Vacancies Statistics; retrieved in September 2014: http://www.statistics.gov.hk/pub/B10500032014QQ02B0100.pdf

[4] EYE Program survey of participants who launched their businesses prior to entering EYE Program; N=141

[5]CUHK analysis

[6]Census and Statistics Department.(2012). *Key Statistics on Business Performance and Operating Characteristics of the Building, Construction and Real Estate Sectors in 2012*. Retrieved in September 2014: http://www.statistics.gov.hk/pub/B10800112012AN12B0100.pdf
Census and Statistics Department. (2012). *Key Statistics on Business Performance and Operating Characteristics of the Import/Export, Wholesale and Retail Trades, and Accommodation and Food Services Sectors in 2012*. Retrieved in September 2014: http://www.statistics.gov.hk/pub/B10800142012AN12B0100.pdf

23.4% of all value added created by local businesses regardless of their size[7]. On average, in year 2012, these companies reported HK$8.89 million in business receipts and other income, which has created a yearly average added value of HK$ 0.97 million per establishment[8].

Results from our survey with EYE Program participants suggest that although it takes a year for local startups to start contributing to the value creation and GDP growth, their contribution more than doubles on a yearly basis in the following three years of operations. In their 4th year of operations, 43% local startups contribute to the local GDP growth (Fig. 4).

Given our knowledge of the estimate of current local startup contribution to the local GDP, we forecast that if support is provided to as little as 2% of newly launched businesses per year, they would have the potential to contribute at least **0.24% of local GDP** in the first 4 years of their operations, which accounts for 1.02% of GDP generated by businesses with less than 10 employees (Fig. 5). This may not seem to be a high number, but startup contribution is estimated to double each year, which creates a significant potential for economic growth.

Figure 4. Value added in local startups by years of operations[9]

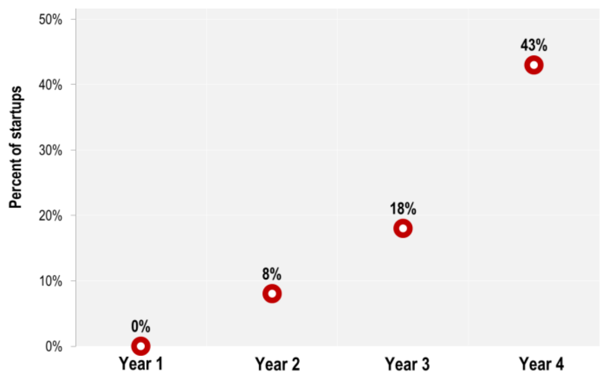
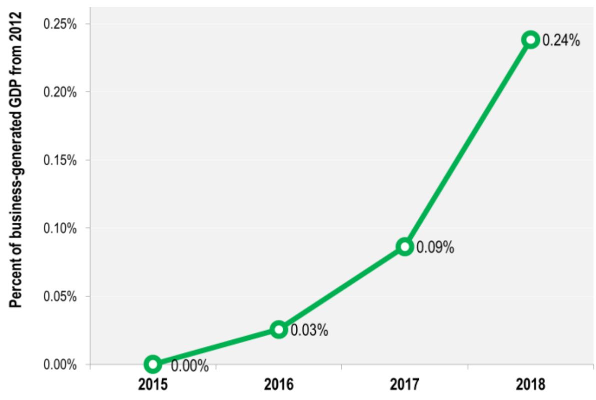


Figure 5. Potential GDP creation capacity of local startups[10].



Intellectual Property. According to the latest estimates from the Intellectual Property Department, only 12.9% of firms with up to 10 employees have registered trademarks, patents, or designs in Hong Kong[11] (Fig. 6). This might be due to limited resources available to finance IP applications. However, our study of local startups has revealed that this dependency does not apply to new businesses. In fact, startups in our study were outperforming the general population of local businesses with less than 10 employees in IP filings from the first year of their operations. Seventeen percent of firms in their first year reported applying or acquiring an IP right and 45% of startups in their fourth year of operations declared that they

Census and Statistics Department.(2012). *Key Statistics on Business Performance and Operating Characteristics of the Industrial Sectors in 2012*. Retrieved in September 2014: http://www.statistics.gov.hk/pub/B10800122012AN12B0100.pdf
Census and Statistics Department.(2012). *Key Statistics on Business Performance and Operating Characteristics of the Information and Communications, Financing and Insurance, Professional and Business Services Sectors in 2012*. Retrieved in September 2014: http://www.statistics.gov.hk/pub/B10800132012AN12B0100.pdf
Census and Statistics Department.(2012). *Key Statistics on Business Performance and Operating Characteristics of the Transportation, Storage and Courier Services Sectors in 2012*. Retrieved in September 2014: http://www.statistics.gov.hk/pub/B10800102012AN12B0100.pdf

[7] Banks and construction companies are not included in the measurement.

[8] See Footnote 6 for references.

[9] Data from EYE Survey participants who launched their businesses prior to entering EYE Program; N=141; values calculated as percent of companies that achieved positive income for more than 6 months in the past year.

[10] CUHK calculations

[11] Intellectual Property Department & Mercado Solutions Associates (2012) Survey on Business Attitudes to Intellectual Property, Hong Kong.

have launched IP acquisition procedures (Fig. 6).Considering the IP alertness of local startups, they could potentially contribute an additional **7,800 new IP rights** to the Hong Kong economy in the next 4 years and increase the number of local IP filings by 7% in the fourth year of operations (Fig. 7).

Figure 6.Local startups with IP filings by year of operations[12].

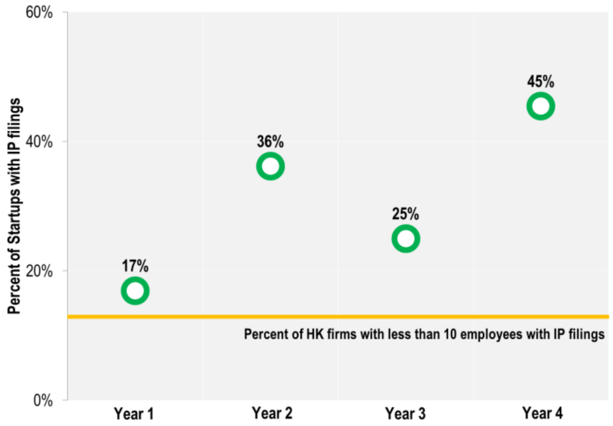
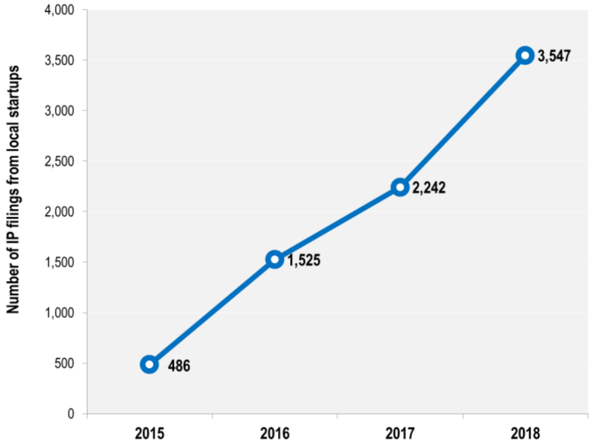


Figure 7.Potential IP filing contribution of local startups.[13]



[12]Data from EYE Survey participants who launched their businesses prior to entering EYE Program; N=141
[13] CUHK calculations

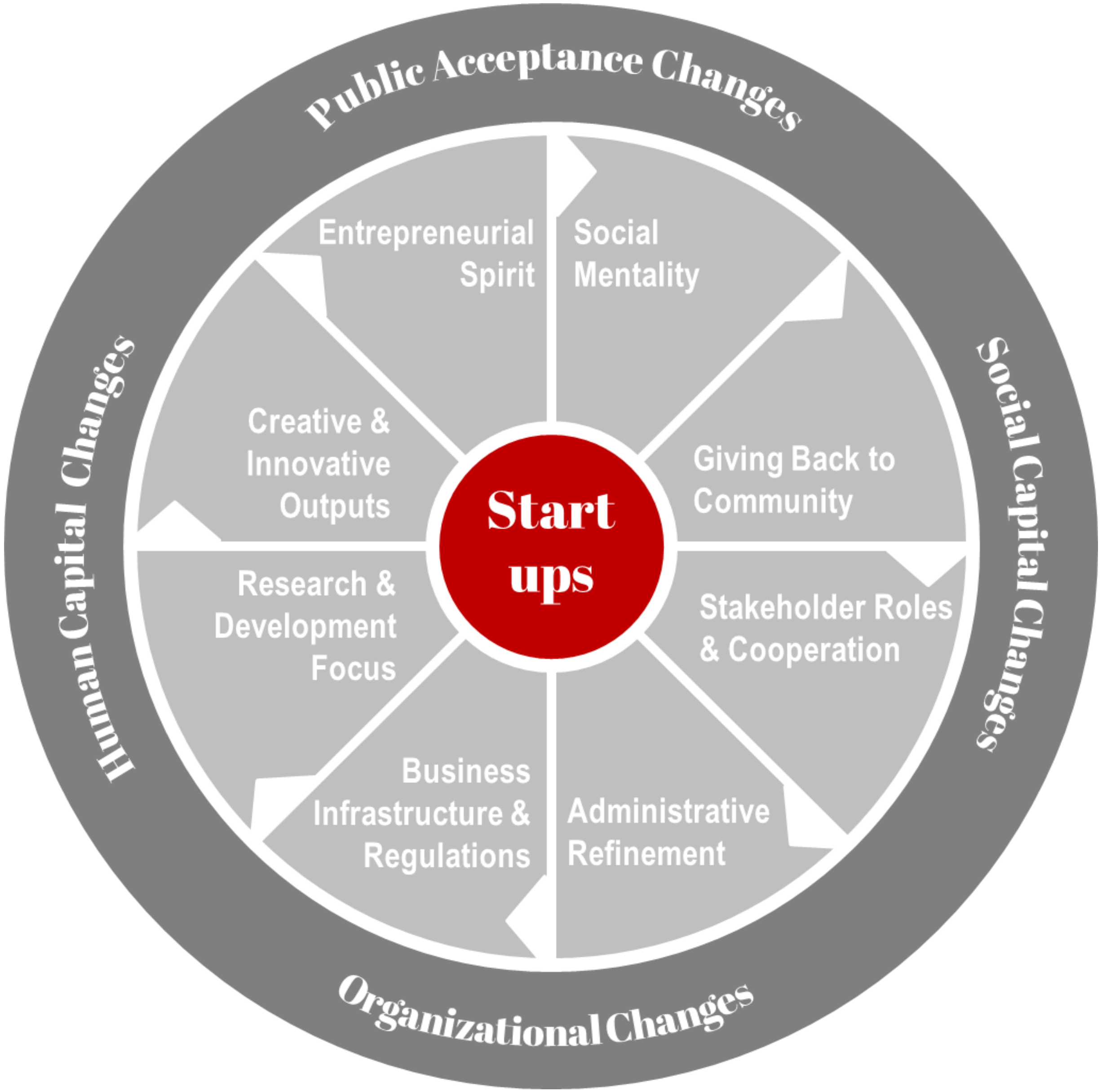
Key findings

Development and support of as little as 2% of newly registered Hong Kong businesses per year would impact local economy in the next 4 years by:

- Increasing the number of viable, high-potential startups by 11,480 establishments, which currently account for 3.6% of all companies with less than 10 employees;
- Creating over 338,800 new jobs locally, which accounts for 41.5% of current employment in firms with less than 10 employees;
- Increasing Hong Kong's GDP by additional 0.24%, which accounts for 1.02% of GDP currently created by companies with less than 10 employees;
- Filing 7,800 new IP applications for patents, trademarks or designs.

Wheel of Change Framework

Figure 8. Wheel of Change Framework



Considering the tremendous growth in the entrepreneurship ecology in the last five years, provision of some level of support to the two percent of newly registered businesses per year may not seem to pose any significant logistic challenges. However, we noticed that the newness of stakeholder groups combined with cultural barriers to entrepreneurship may, to some extent, hinder the efforts of individual contributors or groups of participants. To this end, we offer eight action plans that leverage Hong Kong's strengths as entrepreneurship hub and propose measures to remove the existing barriers, which prevent local budding entrepreneurship from reaching its full potential.

The "Wheel of Change" framework organizes our action plans into four principal categories of change. Specifically, changes are required in Hong Kong's public acceptance of entrepreneurship, in social capital stock that is available to local entrepreneurs, in the way local regulatory and administrative environment for startups is organized, and in human capital that fosters and delivers entrepreneurial outcomes.

Public Acceptance. Changes in public acceptance of entrepreneurship are needed because currently Hong Kong's entrepreneurial spirit remains dormant and general population favors short-term approach to doing business and making a living. Measures we designed target these two obstacles and help to educate local population in changing their outlook to more long-term and novelty-embracing.

Social Capital. Social capital of local entrepreneurs represents connections and their resources available to Hong Kong's startups. It results from the cooperation practices within local industries, across groups of stakeholders, and throughout generations of businesses. While local nascent entrepreneurs are well-versed in creating support communities and helping each other, more support from well-established businesses, successful entrepreneurs, and older generations could seriously boost the potential of current startups and kick start new industries. Also, refining roles of ecosystem stakeholders could improve the effectiveness of resource distribution to local startups.

Organization of Markets. Organizational changes are required to further improve the ease of doing business in Hong Kong. The city is already well-known and praised for its high standard regulatory environment and *laisse faire* attitude towards business activities, but fine-tuning of certain policies that are relevant to local and incoming foreign startups could help to further ease their administrative burden and increase the entrepreneurship rates in the economy.

Human Capital. Although local potential entrepreneurs are creative and well trained in business management, engineering, or science, they fall short in their capacity to redirect and reorganize their creativity towards innovative outputs with potential for commercialization. As a result, many local enterprises lag behind in research and development. In parallel, those who do innovate go unnoticed in the local culture, because most of their products or services are exported or licensed out. Changes in education system and in strategic development in local industries could address the issue of maladjustments in local manpower, skills, and knowledge streams that are being redirected to feed startup needs.

All elements of the "Wheel of Change" are interconnected and designed to work in concert to deliver optimal results. They are intended to inspire positive change in all areas of concern, to create positive feedback loop in the entire ecology and to provide self-propelling mechanism for dissolving the existing barriers in the startup support system.

The report has been organized to closely follow the logic of the "Wheel of Change".

CHANGES IN PUBLIC AWARENESS

A ship in harbour is safe – but it is not what ships are for.

– William G.T. Shedd

Awaken the dormant entrepreneurial spirit

> **Culture of embracing entrepreneurship was lost because financial market and the real estate frenzy.**
>
> *- Jayne Chan*

Hong Kong has a long entrepreneurial history. Successful individuals who have built their empires from ground zero, just like Li Ka-shing, move the imagination of the local population. In the 1950s and 1960s, corporate jobs were scarce and frowned upon and it was believed that if you could not be your own boss, you were not successful in your professional life. Things had changed since then.

Inculcated Risk Aversion. According to our experts, entrepreneurial spirit of Hong Kong is not gone, but it is dormant and pared down by risk aversion. While Hong Kong is culturally ready to take the entrepreneurial risk, there are other factors that temper the spirit down.

Ironically, our experts connect the dormant entrepreneurial spirit to the economic prosperity of Hong Kong. As one of them pointed out, "good is the enemy of great". The necessity-driven entrepreneurship is no longer needed and the opportunity-driven entrepreneurship is pared down by the number of opportunities that are easier to achieve and readily available within the local economy.

A wealthy modern Hong Kong does not motivate new generations to set up their businesses the way poverty motivated Li Ka-shing to build his empire. Local society has developed high levels of risk aversion in their career choices. Parents do not want their children to go through the same hurdles of necessity-driven entrepreneurship and direct them towards less risky careers. These days, fresh graduates are looking for job safety and often pick the "easy way" by finding employment in well-established sectors and companies. Our panel of experts had acknowledged the problem of risk aversion driven by the prosperous economic climate of Hong Kong.

The dormant state of entrepreneurial culture was the reason why experts were so divided in calling Hong Kong's cultural and social norms strength or weakness. On one hand, the experts would emphasize the high levels of support within the entrepreneurial community, open-mindedness, ambition to succeed, and hard-working spirit of local population. On the other hand, they were critical about people's unwillingness to embrace risks and help developing new ventures. As much as 33% of our experts argued that qualified and committed workforce is less available to startups than 3-5 years ago. This links back to the abundance of alternative and less risky career options available on the market (Fig. 9).

Table 1. Comparison of intensification of peer pressure between committed and postponed entrepreneurs[14]

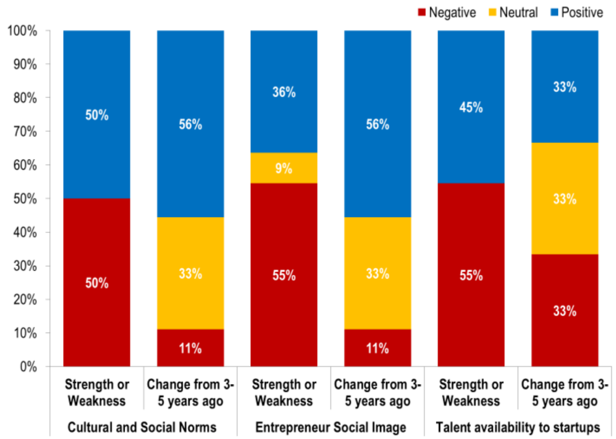
	Ready to startup	Not yet ready
Pressure from family	+25%	+39%
Pressure from friends	+25%	+436%

Overpowering Peer Pressure. Our survey has revealed that potential entrepreneurs face an increased pressure from their closest friends and family when they decide to launch a business and that it might be one of the key factors preventing people from taking the leap.

The peer pressure is an important factor influencing the entrepreneurship rates. Our study has revealed that 43% of potential entrepreneurs consider social and cultural norms in taking the decision of whether to start a business.

[14]Data from EYE Program Survey, N=281

Figure 9. Expert assessment of Hong Kong's social and cultural aspects with respect to enhancing entrepreneurship[15]



In our two-round survey, those who discontinued on their journey to start a business reported much higher increase in the pressure against launching a new venture from their closest friends and family. Such strong impact seriously limits the conversion of entrepreneurial intentions into actions (Table 1).

[15]Data from 12 expert interviews; percentages represent the proportion of experts assessing each of the items; In strength or weakness columns negative represents weakness, positive is a strength, and neutral is neither; in change from 3-5 years ago, negative represents "things got worse", neutral means that "things stayed the same", and positive is for "things are better".

43% of potential entrepreneurs consider social and cultural norms in taking their decision of starting a business

Agents of Change. These findings show the strength of cultural conditioning in defining the entrepreneurship rates in Hong Kong. It also underscores the importance of support given to potential entrepreneurs.

For this reason, **networking groups** for entrepreneurs and **co-working spaces**, where new entrepreneurs can find peer support they need to advance their businesses, are important to developing a vibrant entrepreneurial scene. Our panel of experts was very positive in their assessment of the community support for entrepreneurs. There is a lot of "helping each other" attitude among local entrepreneurs, which provides a substitute for family and friend support in launching a business.

The dormant entrepreneurial spirit of Hong Kong can be revived. Our experts pointed out that there is not enough **media attention** directed towards entrepreneurship in Hong Kong and that Hong Kong's successful stories do not receive sufficient coverage in foreign media. They argue, if people heard more success stories about local startups, it would enhance their self-esteem and help some of them to take the decision about taking the first step towards entrepreneurship.

Luckily, media is refocusing lately on promoting young businesses. For instance, TVB launched a game show "I am Boss", where business startups pitch their ideas and receive valuable advice from local experts in entrepreneurship. Year 2014 has also seen the birth of two startup-focused magazine publications: JumpStart Magazine and SCMP's Inside Entrepreneurship. Likewise, international media has begun picking up local stories on a more regular basis. For example, TechCrunch has published only one story from Hong Kong in 2012, 13 in 2013, and more than 20 in 2014.

Also, the **multicultural aspect** of the city plays an important role in influencing change within local culture, by facilitating the international exposure of local startups. Also, the "East meets West" vibe of Hong Kong potentially provides local businesses with great opportunities for idea generation.

We launched Jumpstart to create a central platform for the rapidly growing startup community – a place to be inspired, share startup ideas, and learn about the latest developments in Hong Kong.

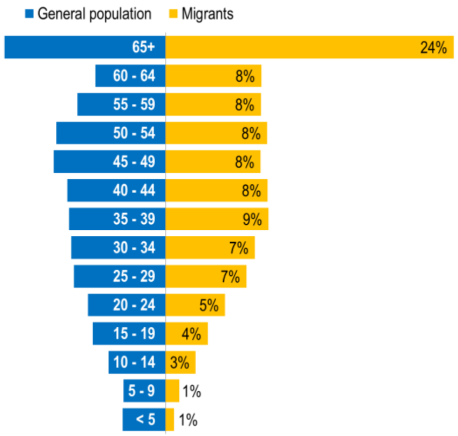
- Yana Robbins

Key Findings on Entrepreneurial Spirit

- Hong Kong's dormant entrepreneurial spirit results from the inculcated risk-aversion, good economic conditions, and an overbearing peer pressure from the closest social circles of potential entrepreneurs;
- The entrepreneurial spirit of Hong Kong could be brought back to life through a more intensive engagement from the media, co-working spaces, and the entrepreneurial community.

Battle the overpowering short-term mentality

Figure 10. Age distribution of Hong Kong population[16]



One of the main criticisms identified through our research is that local society has a short-term way of seeing things and planning for future, which prevents them from choosing entrepreneurship careers. People are mostly concerned with their current situation and often dismiss long-term advantages. The "Get Rich Quick" mantra is prevalent in activities of local businesses and of the working population.

Where does it come from? We have identified several potential sources of such outlook. Historically, Hong Kong was and still is a trading port, so people treat the city as a place of quick exchange and short-term gain. The British rule before 1997 and the "one country – two systems" arrangement with China may also have influenced the way people think about their future in Hong Kong. To many residents it became a transitional economy that belonged or will belong to a different political arrangement in the long-term, so the uncertainty of future made the "right here, right now" mindset prevail.

The short-term mentality mindset can also be attributed to the aging in local and migrant population. The analysis of the 2011 census data and of the 2013 migration stock statistics from United Nation's Population Division revealed that as much as 24% of Hong Kong's immigrants and over 13% of total local population are aged 65 and above, which may further limit the long-term outlook of Hong Kong's startup activities due to changing life priorities of the largest age group in the population (Fig 10). As a result, short-term mentality is prevalent on many levels.

Aging population. While we cannot stop aging, one solution would be to engage the entrepreneurially-experienced part of Hong Kong senior citizens in providing **mentorship** and various types of support to younger generations willing to start their businesses. In fact, the new policy address actively promotes "active aging", which, amongst others, involves developing mentoring skills of senior citizens.

[16]Statistics from Census and Statistics Department HKSAR(2011) Population Census, accessed in May 2014: http://www.census2011.gov.hk/en/build-your-census-tables.html and United Nations Population Division (2014) Trends in International Migrant Stock: The 2013 Revision, accessed in November 2014: http://esa.un.org/unmigration/TIMSA2013/migrantstocks2013.htm

The support could take different forms, depending on the availability of resources. Our research has shown that emotional support is one of the most important elements delaying the entrepreneurial activities in younger generations. Involving more senior generations in encouraging new entrepreneurs to follow in their footsteps and take the leap would be beneficial in raising the profile of entrepreneurship and building universal acceptance for startup activity of Hong Kong.

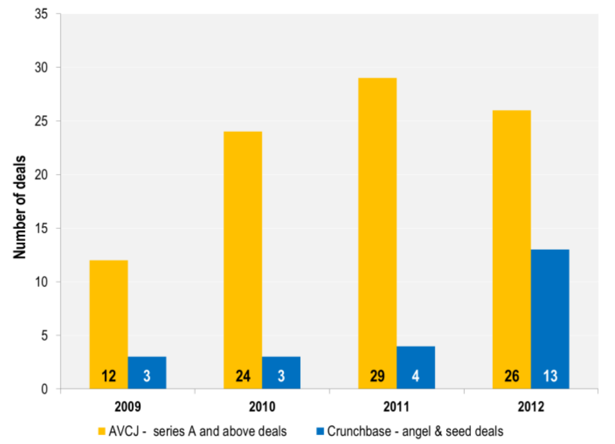
Also, the newly announced plan of bringing back second generation emigrants could also help addressing the issue of an aging population in addition to bringing fresh perspective and diversified human capital to Hong Kong.

Scope of investments. Another consequence of short-term mentality is that professional investors prefer later-stage ventures over startups because they want to see quicker returns. A comparison between two databases with investment deals of Hong Kong ventures has revealed large differences between the number of seed and later stage investments. Later-stage investments were preferred in Hong Kong over startup deals for long (Fig. 11).

Although the volume of startup investments is increasing, local investors should put more emphasis on developing and supporting Hong Kong-born ventures. To this end, more opportunities to **create connections** between local investors and startups should be created, which could include pitching events at co-working spaces, introducing of additional startup challenges, or development of meetup platforms, such as eastfounder.co, where professional investors and startups create their profiles to seek and provide investment locally.

Also, liberating the **Monetary Provident Fund** (MPF) to allow for investments in private equity could stimulate the inflow of investment towards new businesses. Since 2008, Hong Kong has recorded a significant growth in the aggregate net asset value of its pension schemes. The MPF schemes grew from HK$ 248.2 billion in 2008 to HK$ 516.2 billion in 2014. Similarly, ORSO schemes increased the value of their assets from 243.36 billion in 2008 to HK$ 286.12 billion in 2014[17]. For the moment, MPF investments are limited to cash, bonds, and stock market equity. The scheme allows the beneficiaries to adjust their investment portfolio and decide what level of investment risk they are willing to assume. Individuals may choose to allot as much as 100% of their retirement funds to aggressive funds with stock market investment portfolios. These high risk investments share similar traits with private equity investments, so from the perspective of the investor the risk is the same, but from the perspective of the investees, allocating money to high potential new venture could potentially make a large economic impact in Hong Kong. This change could further create a momentum for private **endowment funds** that typically follow the MPF investment policy and avoid alternative investments.

Figure 11. Deal volume comparison for early and later stage professional investments[18]



Last but not least, revamping the **immigration policy** by bringing back a remodeled capital investment scheme and allowing migrants to invest in private equity could potentially stimulate the financial influx towards local startups. Within the recently suspended scheme, foreign nationals were eligible to become local residents if they

[17] Mandatory Provident Fund, Annual Reports for years 2008 – 2014, retrieved in November 2014: http://www.mpfa.org.hk/eng/information_centre/publications/annual_reports/index.jsp

[18] Asian Venture Capital Journal and Crunchbase data, retrieved in June 2014: http://www.crunchbase.com

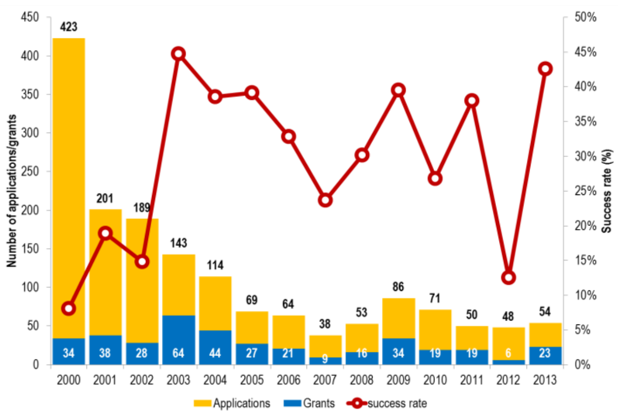
invest at least HK$ 10 million in one or a combination of locally issued stock exchange equities, debt securities, certificates of deposits, and local real estate[19], all of which do not have a direct impact on the resourcefulness of local new ventures. Rechanneling foreign investors' contribution to support homegrown startups could also help to stimulate the interest from local investors.

Government programs. In similar vein of short-term mentality, government-issued support funds, such as Small Entrepreneur Research Assistance Programme (SERAP), are more likely to be approved for companies with current high marketability of the product under development.

In fact, the commercial viability of the project accounts for 30% of the vetting score in the assessment of SERAP applications. It is judged of equal importance as the innovation and technology contents of submitted projects[20]. The commercial viability is important in ensuring that SERAP funding will be repaid by the awardees. However, it may also limit the long-term innovativeness of the local economy. Projects that may potentially have greater impact in long-term or serve as basis for development of future innovations are less likely to be supported with the government funds.

Also, a highly regulated administration of such funds can be detrimental to the awarded firm's innovativeness. Measures that were initially introduced to protect the fund from potential fraudulent behaviors, decrease the flexibility in developing research activities and may slow down the technological development. In consequence, firms that operate in fast-paced environments may be forced to work with obsolete solutions simply because the new generation of technology they are using has not been foreseen and budgeted into their fund administration. The short-term planning that has been built into the fund administration acts against the innovation speed of the fund awardees.

Figure 12. Success rates of SERAP in 2000-2013[21]



As a result, the number of applications for SERAP had been in decline since its launch in 1999 (Fig. 12). Potential beneficiaries of such programs are well-aware of their shortcomings and choose other ways of financing innovation in local firms. The **redefinition** of principal objectives and more **flexibility** in fund administration for funds such as SERAP could potentially provide better grounds for the development of long-term innovation capability of Hong Kong. Putting less emphasis in the vetting process on the immediate commercialization of the project and focusing more on the **disruptiveness** of the innovation could be beneficial to rejuvenation of local industries and to increasing the involvement of local businesses with innovation. The Innovation and Technology Commission is currently working on a new fund, Enterprise Support Scheme (ESS), which will replace SERAP. The new fund will provide a greater flexibility to its recipients and will remove the repayment requirement that is currently in force[22].

University support. Local universities may also, to some extent, be contributing to the proliferation of the short-term outlook of Hong Kong. While they have developed a wide range of programs targeting entrepreneurs, such as mentorship programs, seminar series, summer schools, startup competitions, and funding

[19] Regulations of Capital Investment Entrant Scheme, accessed in October 2014: http://www.immd.gov.hk/en/services/hk-visas/capital-investment-entrant.html

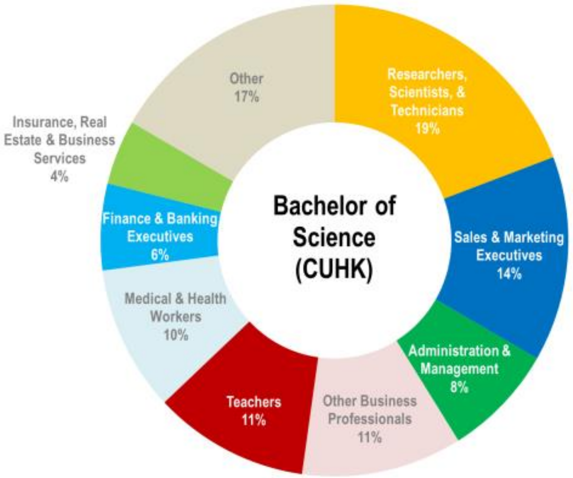
[20] Presentation on Funding Schemes Under the Innovation and Technology Commission from December 3, 2013 accessed in October 2014: http://www.hkctc.gov.hk

[21] Secretariat of Innovation and Technology Commission (2014) SERAP statistics, unpublished data

[22] Legco Paper No. CB (1) 1072/13-14(07) retrieved in November 2014: http://www.legco.gov.hk/yr13-14/english/panels/ci/papers/ci0318cb1-1072-7-e.pdf

options, each of these schemes addresses specific challenges in helping students and alumni to launch their businesses that only act as short-term relief to problems faced by potential entrepreneurs. Also, our panel of experts pointed out to a limited cross-fertilization across faculties at local universities in providing entrepreneurship-enhancing programs as one of the barriers for building a long-term commitment to entrepreneurship from local graduates.

Figure 13. Jobs of CUHK Bachelors of Science in 2012[23]



Solutions offered by local universities are providing help in addressing specific challenges and are therefore less focused on providing a holistic approach which would take on the whole ecology of starting up businesses. In consequence, budding entrepreneurs may not find the environment inductive to their continuous growth.

Indeed, our study has revealed that university-based entrepreneurship initiatives had little long-term impact on future generations of university graduates, as most of them were losing their impetus with time. In 2013, the average self-employment rate (or ratio of respondents who are starting their own business) from local universities was at 1.1% for undergraduates and 1.3% for taught postgraduates (1.2% UG and 0.9% TPG in 2012)[24].

Additionally, while graduates in science and engineering are often seen as the frontrunners of entrepreneurial creation, many students from non-business backgrounds in Hong Kong are not considering developing their careers as entrepreneurs. Instead, they choose careers unrelated to their training and lean towards working in finance industry, simply because they see it as easiest and safest way of developing their careers. The 2012 Graduate Employment Survey of HKU revealed that 18.4% of bachelor graduates and 8.8% of research postgraduates work in domains unrelated to their studies and additional 31.8% and 20.6% respectively have jobs only partially related to their education[25]. A more detailed analysis from HKU and CUHK undergraduates has revealed that, on average, 20% of Bachelors of Science were working in their domain of knowledge and as much as 38% was employed as business professionals, with administration, marketing, sales, and customer service as principal domains (Fig. 13). According to one of our expert interviewees, "they [local graduates] are missing the big picture and have no international vision" that is related to their education.

One solution would be to develop university-based programs that are delivered across faculties and are designed to act as **ecosystem brokers** promoting **interdisciplinary cooperation** and helping to connect and enhance existing connections in the entrepreneurship support network. The Empowering Your Entrepreneurs (EYE) Program launched as cooperation between the Chinese University of Hong Kong and Google Hong Kong is an attempt to address the long-term perspective on training entrepreneurs. It encompasses the seminar, competition, and mentorship elements in providing support to its participants while connecting local startups to potential investors. A one year program, it empowers young entrepreneurs of Hong Kong to innovate and connect with the global community in an effort to help them overcome the startup costs and isolation that come with high rents and the fragmented community of local entrepreneurs.

23 Office of Student Affairs, CUHK

24 Combined statistics from 6 UGC-funded universities: CUHK, HKU, HKUST, PolyU, HKBU, and LU, unpublished data

25 The University of Hong Kong (2012) Graduate Employment Survey, retrieved in April 2014: http://cedars.hku.hk/sections/careersplacement/GraduateEmploymentSurvey/report/FD/FD_report_2012.pdf

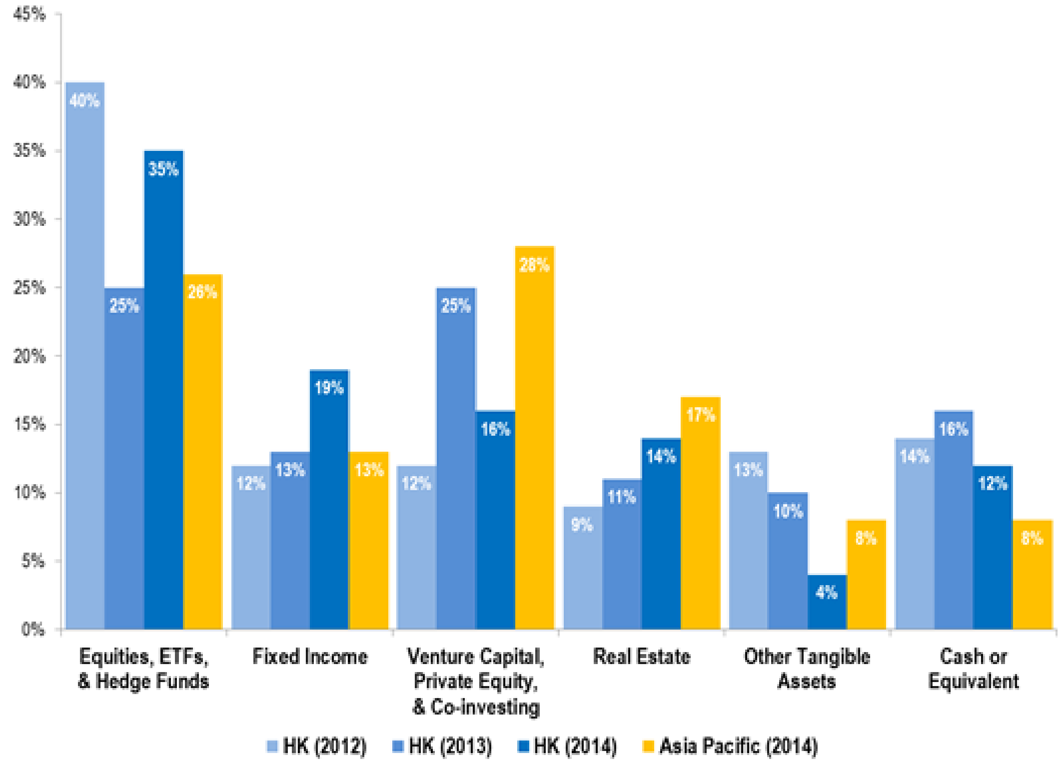
Key Findings on Social Mentality

- Short-term mentality of Hong Kong population is limiting local entrepreneurship rates;
- Short-term mentality spurs from Hong Kong's population characteristics, city's geographical position, trading background, and historical circumstances;
- Short-term mentality impacts the ways in which investors, government funds, universities, and local population are making choices in developing local entrepreneurship and innovation;
- Raising the profile of entrepreneurship, involving older generations in mentorship activities, creating connection opportunities between startups and investors, and redesigning of government funds and university programs are potential ways of overcoming the short-term mentality.


CHANGES IN SOCIAL CAPITAL
Goodness is the only investment that never fails.
- Henry David Thoreau

Give back to the community

Figure 14. Average Portfolio Allocations of Hong Kong Family Offices 2012-2014[32]



Hong Kong businesses have a long tradition of "giving back" to society. In accordance with Confucian values, Hong Kong's successful entrepreneurs feel the responsibility of repaying the favor to the community that supported them in their path to success through helping others to achieve their objectives[26]. In fact, Hong Kong has been consistently ranked as one of the top 20 economies with the most generous societies by World Giving Index. As much as 68% of local citizens regularly give money to charities and 57% are willing to help strangers in need[27]. We have identified four most prominent ways of how giving back to community could potentially help entrepreneurs: through direct investment, through providing resources and opportunities to refuel resource-limited startups, through

[26] UBS and INSEAD, "UBS-INSEAD Study on Family Philanthropy in Asia," 2011, accessed in October 2014: http://www.insead.edu/facultyresearch/centres/social_entrepreneurship/documents/insead_study_family_philantropy_asia.pdf

[27] Charities Aid Foundation (2014) World Giving Index 2014, accessed in February 2015: https://www.cafonline.org/publications/2014-publications/world-giving-index-2014.aspx

fostering business synergies, and through developing philanthropic activities.

Direct Investment. Financial institutions, such as venture capital firms are important providers of startup capital, but there are other potential investors that could contribute to the development of local new ventures. In the US, many startups rely on corporate investors, where large companies inject money to startups from their own or related industry to benefit from cross-fertilization and to advance the development of the industry. This is rarely the case in Hong Kong. CrunchBase recorded only 3% of institutional investments by Hong Kong based corporations.

In comparison, in the same time span for years 2007 to 2012, US corporations were responsible, on average, for 15.9% of venture capital deals[28]. Our panel of experts also pointed out that large local companies do not make sufficient effort in developing and strengthening their own industries.

Another potential source of investment in startups is local high net-worth individuals who are good candidates for becoming business angels or family business-vested venture capitalists. According to the Boston Consulting Group's Global Wealth 2013 report, with its 13 per 100,000 households having more than US$100 million of private financial wealth, Hong Kong has the highest proportion of ultra-high net worth individuals in the world[29]. The number of millionaires, or individuals with HK$ 1 million or more in liquid assets reached 732,000 in 2013, up by 22% from 2012, according to Citibank's Hong Kong Millionaire Survey[30].

Most of this wealth comes from family businesses. According to estimates by Second Generation Entrepreneur Association, 80% of businesses in Hong Kong have origins in family activities. In 2010, family businesses accounted for 62% of all firms listed on Hong Kong Stock Exchange with market capitalization as a percentage of nominal GDP at 291%[31]. Indeed, the majority of Hong Kong's economic power has been created by families who, at one point in time, were or still are engaging in entrepreneurial activities. While this is true for most of wealthy families around the globe, Hong Kong and other Asian families have different relationship with entrepreneurial activities because they are still ruled by first or second generation of their family members. They are the ones who built the family empires or witnessed building them first-hand, so they are more in touch with startup needs than further generation families of Europe or the US.

This may be reflected in their investment allocation strategies. A recent study by Campden Wealth Research (2014) have revealed that while European families allocate, on average, 17% of their investments towards venture capital, private equity, and co-investments, the Asian average allocation is at 28%. In Hong Kong, these allocations are still fluctuating (Fig. 14)[32].

In 2010, Family Businesses accounted for **62%** of all listed companies in Hong Kong.

[28] PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report, accessed in October 2014: https://www.pwcmoneytree.com/

[29] Boston Consulting Group (2013) Global Wealth 2013: Maintaining Momentum in a Complex World, retrieved in July 2014: http://www.bcg.de/documents/file135355.pdf

[30] Li, K. (March 18, 2014). Hong Kong has more millionaires than ever – but one in 10 are considering leaving the city. South China Morning Post. retrieved from http://www.scmp.com/business/money/article/1451539/hong-kong-has-more-millionaires-ever-one-10-are-considering-leaving?page=all

[31] Credit Suisse (2011) Asian Family Businesses Report, retrieved October 31, 2014.

[32] Campden Wealth Research (2014), unpublished data

Investment strategies of Hong Kong families are currently undergoing changes, slowly moving away from capital markets and hedge funds, and focusing on making direct investments in other businesses unrelated to the family business. This allows them to spread the risk and address personal preferences of family members. Unfortunately, due to lack of market transparency, there is little formal information available on deal values and volume, or the official number of family offices investing in business startups in Hong Kong.

Another reason for these fluctuations could that we are currently observing the ongoing process of generational change in local family businesses[33]. Younger generations have a different perspective on investment strategies and are more open to non-conventional investment paths. They want to make a durable impact in their communities and ensure future growth of family businesses. To this end, they need to consider building ties with companies from outside of the family activities to foster innovation, maintain family firm competitiveness, and rejuvenate their business models. However, with older generations still in power, their impact on the level of potential investment in private equity may still be limited.

Additionally, investing in private firms is relatively new concept to small and large local family businesses alike and there are no performance benchmarks, so the investors are still trying to figure out how to allocate their resources. For the moment, deals are done privately and the access to family office investments is done through referrals in personal networks[34]. The notion of trust and alignment with family values is very much emphasized in relation to seeking funding from family offices. This may potentially limit the access of startups to family offices that are outside of their social circles.

Most of small family businesses think it is not their place to help regular local startups because they don't see it as helping the society. Charity is charity and business is business. If it's not a social enterprise, they won't mix these two.

- Stanley Ng

Establishing alternative investment **performance benchmarks** and promoting the social and reputational value of investing in startups could potentially help to strengthen the involvement of corporate and large family firm investments in local startups.

Startup Refueling. Although local well-established businesses are not yet ready to invest in startups, they have started developing programs that provide new ventures with much needed resources and opportunities.

The most common way of contribution is that of individual successful entrepreneurs. As individuals, and not company representatives, they get involved with training programs where they provide **mentoring** to startups. For example, in the mentorship phase of Google-CUHK EYE Program, 40 successful entrepreneurs and corporate managers coached high-potential startups throughout their gestation activities and helped them to develop viable business models. Although it is a very popular way of engaging in paying back the personal success debt, it would be more beneficial to local startups and their mentors to establish organizational-level cooperation as well. This is the case of Nest, a private startup incubator, which has been established by a successful entrepreneur, Simon

[33] UBS and INSEAD, "UBS-INSEAD Study on Family Philanthropy in Asia," 2011, accessed in October 2014: http://www.insead.edu/facultyresearch/centres/social_entrepreneurship/documents/insead_study_family_philantropy_asia.pdf

[34] Panel discussion "Partnering with Family Offices" at Asian Business Angel Forum, May 21, 2014

Squibb, the founder of Fluid – an award-winning creative agency.

Another way of helping local startups is through organizing **startup competitions** that raise awareness for individual startups and entrepreneurship in general. However, only few events of this kind are inspired and organized by corporate sponsors, with the government and universities being the most active in this area. Notable examples include HSBC Youth Business Award or Cocoon Pitching Nights.

The most recent way of well-established business contributions to local startups is through providing them with much needed resources for free or at discounted rates. Physical space sharing, discounted business services, relaxation of minimum order quantities in manufacturing are the most common examples of how older businesses of Hong Kong are helping the new generation of startups. While these activities are being developed, they are quite recent and not very common in local businesses.

One way of overcoming this challenge could be to encourage and recognize the involvement with startups as **corporate social responsibility** act. Also, promoting such activities from well-established businesses in media could increase the awareness of potential benefits of cooperation to other, less active businesses.

Examples of well-established companies helping local startups

SWIRE PROPERTIES

In 2014, Swire Properties has launched blueprint, a startup accelerator and a co-working space to cater to B2B startups. The accelerator program is free of charge and tailor-made for each startup. Services include mentorship, physical space, and access to potential investors.

香港寬頻 HONG KONG BROADBAND NETWORK

Hong Kong Broadband has been working in cooperation with Cocoon in providing free access to their hotspot infrastructure and high-speed internet to resident firms of the co-working space.

MaBelle It's Diamond. It's Different.

Cocoon was one of the first co-working spaces in Hong Kong has been founded by the founders and owners of MaBelle. It provides a wide range of services to early-stage startups, from organizing pitching events and increasing startups' media exposure to connecting startups with investors and helping them find university partners.

Google Hong Kong

In 2014, Google (HK) together with the Chinese University of Hong Kong has launched a 10-month long Empowering Young Entrepreneurs (EYE) Program. It provides training, mentorship, networking opportunities, and investment exposure to local startups and it is free of charge to all participants.

HSBC

In cooperation with Hong Kong Federation of Youth, HSBC has launched the HSBC Youth Business Award in 2011 to promote the culture and practice of entrepreneurship. It provides winning local startups with a partial financial support, mentorship, networking opportunities, and media exposure.

Business Synergies. The majority of Hong Kong businesses are small and family run. With 88% of local businesses having less than 10 employees and 50% of businesses engaging in traditional industries[35], such as import/export trade, wholesale, and retail, they face the risk of limited avenues for future development. Indeed, observations from interviewed entrepreneurs confirm this phenomenon. Especially in family-run small businesses, which constitute almost 80% of the local businesses[36], several problems that hinder the competitiveness of the local economy were identified. Specifically, most of these businesses are "the old economy" companies, reflecting Hong Kong's tradition as a trading port, and quite unwilling to change. In many of these firms first generation of the founders has the majority vote and since these businesses are also small, founder's role is even more prominent. This presents a challenge since preserving the founder's way of doing business is a prerogative for older generations of small entrepreneurs. In consequence, many of small family businesses are in decline or experience very little growth.

Given the opportunity, second generation of entrepreneurs puts forward different ambitions and focuses on transforming staling businesses of their fathers into new economy firms. To stay in the game and expand businesses passed to them by their parents they need to transform old business models or even switch industries. They mostly do it by leveraging their skills and applying them in new contexts. For example, a watch manufacturer would expand its activities to building medical equipment to exploit his high-precision equipment making skills. However, not all businesses have high level of transferable skills that could be leveraged across industries.

Instead, they might consider **building ties** with new companies from outside of the family activities to foster innovation and rejuvenate their industries. It would be a win-win situation for each side. Startups would get access to skills, knowledge, connections, and other resources of existing businesses and the well-established small businesses would benefit from synergies from the startups' complementary ideas, novel business models, and highly committed business partners.

Unfortunately, there is a big disconnect between local startups and well-established small businesses that has been observed by our panel of experts. It is a very uncommon practice for older small businesses to cooperate with startups from their industries. There are two reasons for this lack of exchange and both could be attributed to the unintentional shortsightedness of small business owners.

First, older businesses perceive startups as capital-intensive ventures with a different mindset. They contrast the high-tech and high-valuation of startups with low-tech and low-valuation position of their businesses and argue that there is a mismatch between the culture of new and old businesses that cannot be surpassed. At the same time, they also strive to achieve the same position and increase their competitiveness by revamping business models. Unfortunately, they do not consider the possibility of cooperating with others who might help them to overcome the "old economy" challenge.

Second, they consider it would be too much work to cooperate and co-develop local startups, which would distract them from their own business objectives. While it is true that working with a new team would require some training in certain areas, it is also true that old businesses' teams may learn from newcomers as well. Additionally, they are worried that working with startups would make a serious dent in their financial resources. They perceive the cooperation as extra work and not a potential way to improve their own business and its efficiency.

To overcome this preconception, campaigns promoting the **cross-fertilization** and knowledge spillovers between startups and older small businesses should be put in place. Also, establishing of a **grassroots association** that could provide matching between small businesses and startups could be beneficial to increasing the cooperation between new and old economy players.

Philanthropy Through Impact Investing. Giving back to society is, to many, synonymous with donating

[35] Hong Kong Government, Census and Statistics Department (2012)
[36] Estimation provided by Second Generation Entrepreneur Association

money to charitable causes. However, there are other ways of "repaying personal debt" that could potentially help the local startup scene. In fact, younger generations of entrepreneurs already have a different understanding of "giving back to society". Striving to make a long-lasting impact in their communities they slowly replace cheque-writing philanthropy of their parents with more sophisticated and strategic methods of getting involved with local economy[37]. In consequence, they become more involved with impact investing. Impact investing is a type of strategic philanthropic contribution that combines social or environmental change with moderate financial returns. For example, SOW Asia was established in 2008 to provide a platform of cooperation between social enterprises and local donors.

Although we see an increased involvement from local businesses and individual donors, the impact investment activity is still limited in Hong Kong due to cultural and attitude issues, whereby impact investments are considered as a double loss because of high-risk investment in startup that is combined with a 100% financial loss of donating to a social cause. Also, some donors may be concerned with others questioning the intentions of making a donation that could potentially turn into a profitable investment.[38] Awareness campaigns could help with overcoming prejudices and increasing the understanding of potential benefits of impact investment. Also, developing performance yardsticks for **impact investment** could potentially increase the general acceptance of this way of giving back to society and legitimize the efforts of donors interested in combining giving with investments.

Also, connecting startups from industries that are directly **related to philanthropic interests** of family offices could potentially help deliver higher quality services to the final benefactors. For instance, 32% of Hong Kong's family charities are concentrating their efforts on improving local education[39], so connecting them with startups that offer educational services could be beneficial to both. Local startups would get access to resources and gain reputational leverage from family offices, and family offices could improve their strategic giving. In the similar vein, startups in health industry and senior citizen services could also seek support from family offices and their charities.

Way Forward. Although most often observed in relation to large and resourceful corporations or high-profile family businesses, the four ways of giving back to society can be replicated by business owners with less notoriety or resources. They can provide startups with funding, advice, and networks. In return, they will not only be achieving potential financial gains but also promoting and introducing innovation to local family businesses and extending the life of their own businesses.

Universities can help to convert local small businesses though engaging their **alumni networks** and promoting cooperation across generations of firms.

Also, the government could consider opening its Microfinance and SME Financing Guarantee Schemes to private venture capital firms and individual investors to complement the amount of bank loans available to startups with private equity and to promote its support of new firms among local investors. The advantage would be twofold: startups that qualify to the program would receive expert advice from professional investors and additional capital injections in parallel to government-backed long-term loans, while investors participating in the program could leverage their investment with preferential bank loans bearing the government's support. The **private-public capital matching** does not need to be compulsory, but including such option in the program could

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[37] UBS and INSEAD, "UBS-INSEAD Study on Family Philanthropy in Asia," 2011, accessed in October 2014: http://www.insead.edu/facultyresearch/centres/social_entrepreneurship/documents/insead_study_family_philantropy_asia.pdf

[38] Anh Ton (2013) Feature Organization: SOW Asia Plants Seeds of Change through Impact Investments, accessed in October 2014: http://www.asianphilanthropyforum.org/feature-organization-sow-asia/,

[39] UBS and INSEAD, "UBS-INSEAD Study on Family Philanthropy in Asia," 2011, accessed in October 2014: http://www.insead.edu/facultyresearch/centres/social_entrepreneurship/documents/insead_study_family_philantropy_asia.pdf

potentially increase the involvement of local private investors and enhance the growth in startups, as examples from the US-based Small Business Investment Company scheme show[40]. In the US, such investment schemes have a proven track record of helping startups with early-stage investment. Firms that benefited from this scheme include Intel, Apple, Staples, FedEx, Sun Microsystems, Costco, or Outback Steakhouse.

[40] Small Business Investor Alliance, accessed in October 2014: http://www.sbia.org/?page=SBIC_Program_History

Key Findings on Local Generosity

- Hong Kong's Confucian background contributes to local entrepreneurs' generosity and caters to their need of "giving back to society";
- We have identified 4 possible ways of leveraging the giving back to help Hong Kong's startups: direct investment, refueling of startup resources, creating of business synergies, and strategic philanthropy;
- Although change is visible, Hong Kong's well-established businesses are still lagging behind in supporting local startups;
- Encouraging their involvement through establishing performance yardsticks, legitimizing non-conventional investments, creating business matching service associations, promoting the value of cooperation as corporate social responsibility act, engaging university alumni networks, and opening up the Microfinance Scheme and SME Financing Guarantee Scheme to private investors could be helpful in developing stronger bonds between old and new businesses in Hong Kong.

Encourage synergies in the startup support ecosystem

A healthy startup support ecosystem is essential in creating an environment conducive of entrepreneurial activity. Hong Kong's ecosystem entered its growth stage in 2009 and since then tripled in size, according to our calculations[41].

Coordination Problem. With the ecology getting bigger, coordination problems began to emerge. Indeed, our research has revealed the local ecosystem has not yet learned how to work together in helping entrepreneurs. First, the ecology is relatively new, so its players are still adjusting to their roles. Second, many of the actors probably have limited knowledge about other parts of the ecosystem, and of their intrinsic value, so they may not see the need for joining efforts. Thirdly, they may simply not know how to work together and find synergies in their objectives. Lastly, given the low prospect of getting other necessary actors to make a move together, some of the stakeholders may simply lack the motivation to create a better environment for local entrepreneurs. As individual players are not influential enough to change the dynamics of the entire system, smart actors in Hong Kong would not put in futile efforts[42].

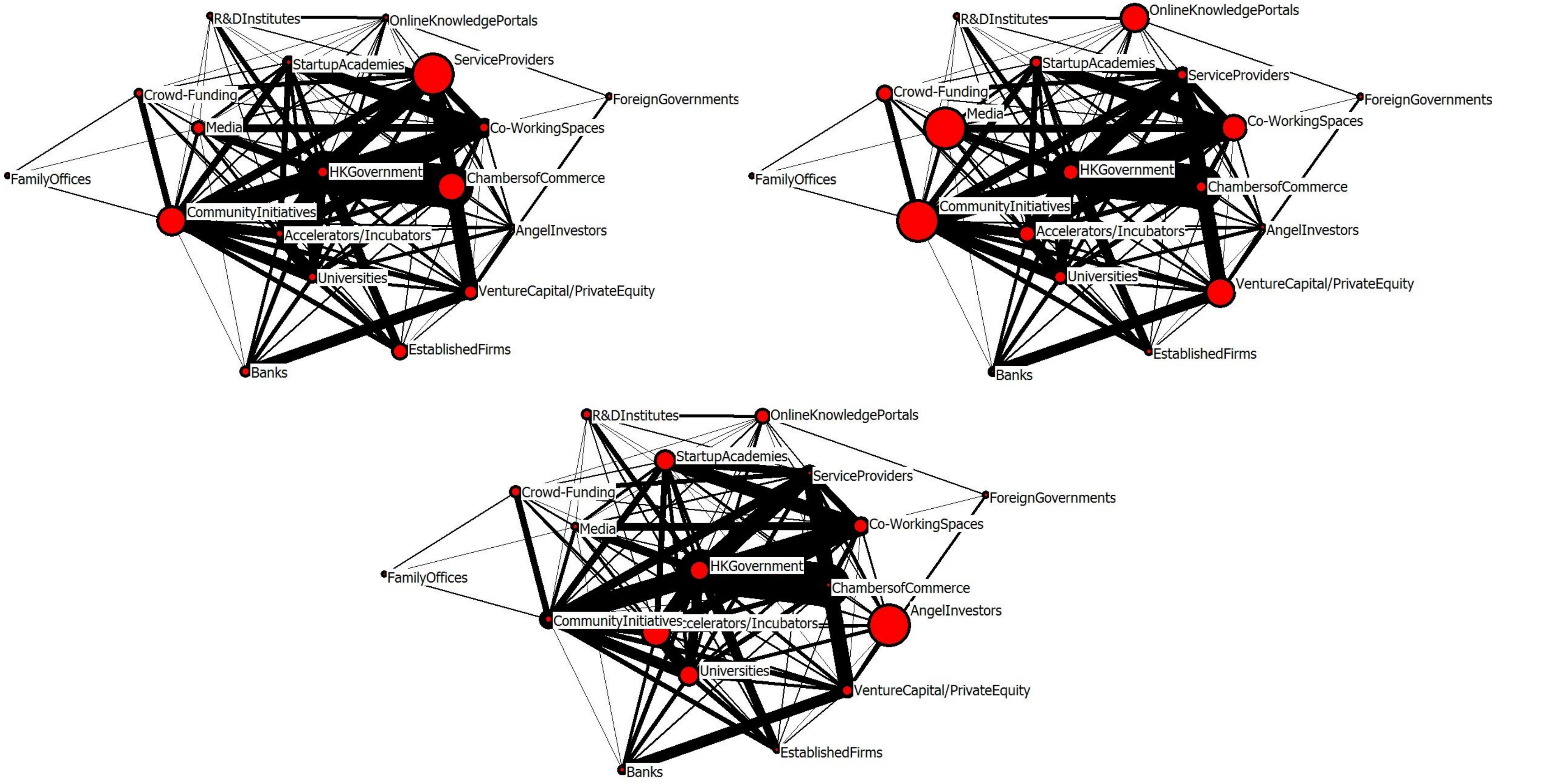
Most of the value to local startups comes not from interacting with disconnected groups of investors, government bodies, or university programs, but from benefiting from networks of interconnected supporters. In highly efficient ecosystems actors cooperate with each other with long-term perspective in mind and are capable of leveraging their own individual strengths and of achieving significant synergies through providing more holistic support to startups.

[41] Dowejko, Au & Shen (2014) Entrepreneurship Ecosystem of Hong Kong, The Chinese University of Hong Kong.

[42] Dowejko, Au & Shen (2014) Entrepreneurship Ecosystem of Hong Kong, The Chinese University of Hong Kong.

Table 2. Definitions of Stakeholder Groups

Type of actor	Definition
Accelerators/ Incubators	Private and public startup accelerators and incubation programs
Angel Investors	Hong Kong-based associations of business angels
Banks	Banks operating in Hong Kong
Chambers of Commerce	Country-level associations for commerce
Community Initiatives	Groups, platforms, and clubs composed of or built by entrepreneurs aiming at self-help
Co-working Spaces	Organizations providing working space for entrepreneurs at a fee
Crowd-funding	Hong Kong-based crowd-funding platforms
Established Firms	Established businesses involved in helping local startups to launch and grow
Family Offices	Institutionalized activities of local high net worth families directed towards startups
Foreign Governments	Foreign government-related organizations supporting local entrepreneurship
Hong Kong Government	Government bodies involved in promotion of entrepreneurship in Hong Kong
Media	Magazines or web portals focusing on entrepreneurship issues
Online Knowledge Portals	Online portals assembling knowledge and resources about local startup ecosystem
R&D Institutes	Public and private research institutes
Service Providers	Established businesses interested in providing paid services to startups at a discount
Startup Academies	Private organizations providing seminars, classes, and courses to entrepreneurs
Universities	Public and private tertiary education institutions operating in Hong Kong
Venture Capital/ Private Equity	Venture Capital and Private Equity firms and associations operating in Hong Kong



(A)
Size of the circle represents the size of the stakeholder group (group size)

(B)
Size of the circle represents how many of possible relations are actually being explored by the group of stakeholders (networking efficiency)

(C)
Size of the circle represents the extent of capacity to bridge gaps between different stakeholder groups (network role)

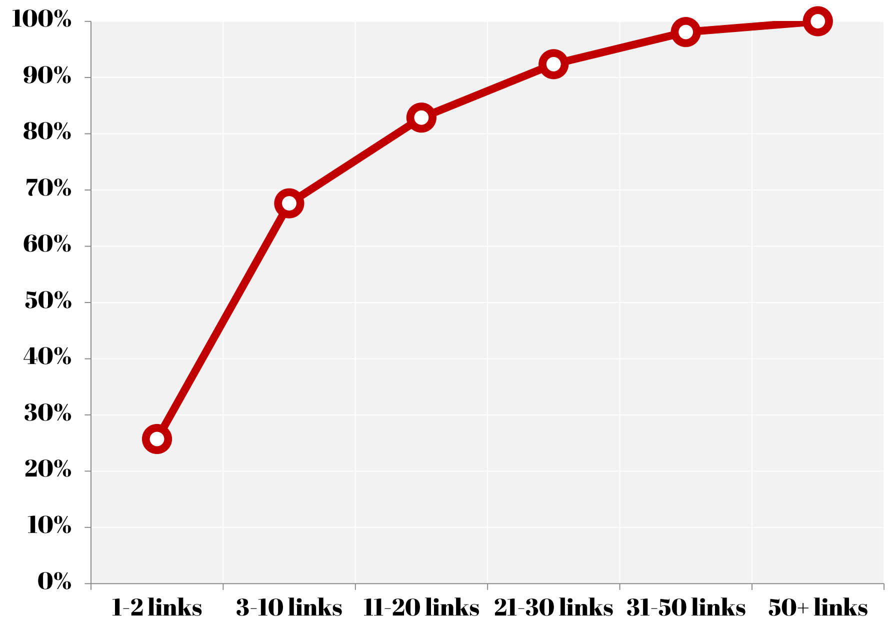
Figure 15. Strength of Connections in Startup Support Ecosystem Network of Hong Kong

Networks of Connections. To further investigate how local stakeholders work together in helping entrepreneurs, we plotted their connections with respect to their joint activities in providing support to local startups. We used interviews, online resources, annual reports, news, and archival data to track down interactions between 839 organizations and we have identified 1,390 relationships that were reported for year 2014. Joint activities involved, amongst other, strategic partnerships, event co-organizing, startup incubation, investment and training opportunities, etc. We used snowball sampling method to include actors in the network, whereby actors are added based on the chain of new connections identified for the existing players in the network.[43]

In an effort to simplify the exploration, we further categorized the stakeholders into 18 different categories and performed the analysis based on the connections between the 18 groups of stakeholders (Table 2). We evaluate four different measures for each group: the size of the group, the strength of its ties to other groups of stakeholders, the overall efficiency of groups' networking, and its assumed role in the ecosystem's network (Fig. 15).

Disconnected Mindset of Startup Ecosystem. At first sight local startup support stakeholders seem to be rather well connected with each other, with 69% of all possible connections between the groups being present.

Figure 16. Cumulative Distribution of Strength of Connections between Groups of Stakeholders[44]



However, some of these connections became live because many stakeholder groups have few active members who are more open to cooperation than others. For instance, while all local universities were contributing to some extent to enhancing the environment for startups, CUHK and HKUST were particularly prolific in working with other organizations towards this objective, establishing 84 and 27 relationships respectively. Also, many inter-group ties were rather weak, with 35% of such links being a result of 3 or less organizations on either side connecting the groups[44] (Fig. 16). For example, the group of established firms was composed of 58 organizations, but many of these organizations were creating singular ties to otherwise unrelated organizations in other groups of stakeholders.

Such pattern in forming connections could mean that there is no unified mindset in the ecosystem about how the relationships should be created and fostered in capturing

[43] For a detailed description of the sampling procedure please refer to: http://en.wikipedia.org/wiki/Snowball_sampling

[44] CUHK analysis

value for local startups. Rather, they can be interpreted as a reflection of individual organizations' interests and strategies. Identifying and addressing challenges of each group of stakeholders in defining their role in the ecosystem could prove useful in reconnecting the startup-oriented mindset of individual players. In the following analysis, we will briefly discuss each group of stakeholders.

Community Initiatives. Local entrepreneurs are generally well organized and have many associations to choose from. They often praise the networking spirit within the community of local startups. These bottom-up initiatives are also in a good position to bring together other groups of stakeholders and to harvest opportunities across the network. However, the efficiency of their networking strategies could be improved. For example, more connections with local investors could be developed to improve the accessibility of funding for local entrepreneurs. Also, establishing closer cooperation with startup-focused media could enhance the visibility of local new firms and help to build momentum in the ecosystem. Overall, entrepreneurial community should work on further strengthening of their position as the ecosystem leaders. Their active involvement and bottom-up approach to building support system for startups has the power of revitalizing Hong Kong's dormant entrepreneurial spirit and could have a positive impact on the long-term health of the ecosystem.

Co-Working Spaces. Local co-working spaces are quite well-connected, considering they have not been here for long. Their number is growing almost on a monthly basis and they immediately develop strong connection to the startup community initiatives. They could improve their role as information and resource brokers though. Co-working spaces have the unique capability of taking up the role of physical hubs that allow startups to lower their rental costs, gather for events, and benefit from organized training. They are also very well positioned to become connectors between startups and the rest of the ecosystem. However, their current connections to universities, potential investors, established large industry players, or the media, which could potentially increase local startups' public exposure and create resource acquisition opportunities for budding businesses, are rather scarce. In that sense, they are not very efficient in connecting startups to high value-adding stakeholders from the ecosystem. By assuming the role of value-adding ecosystem brokers they have the potential of effectively ensure the long-term sustainability of physical hubs and of the entire entrepreneurship ecosystem of Hong Kong.

Hong Kong Government. Local government has the highest number of connections in the entire ecosystem, which indicates high levels of involvement and commitment, but these links are not efficiently used or distributed across other groups of stakeholders. Most of the government's connections are with local chambers of commerce and have little influence on the entire startup ecosystem. In consequence, effort made by such bodies as InvestHK or CreateHK to help local startups is being diluted. Although Hong Kong's administration is often emphasizing its responsibility for boosting entrepreneurship in Hong Kong, a better suited role would be the one of a supporter who is engaging deeply as a participant in the startup ecosystem. Governments' actions are often limited by regulatory environment in which they operate, so it is more sensible to surrender the booster-leader role to the entrepreneurs themselves. They have more flexibility in creating connections, engaging the society, and acting fast in establishing new opportunities for enhancing the ecosystem. After all, one cannot make the society to become entrepreneurs – they need to want to assume this role on their own. To further develop the government's role as a committed supporter, more diverse connections between the local administration and other stakeholder groups, such as community initiatives, should be developed. The launching of StartmeupHK week in 2013 was a great initiative that kick-started a deeper and more meaningful involvement from the government in their role as supporter and enabler of the entrepreneurship ecosystem of Hong Kong.

Foreign Governments. Foreign trade missions and consulates also have their share of contribution to the local ecosystem. Similarly to the local government, they are bound to assume the supporting role in helping local startups to reach foreign markets and attract foreign entrepreneurs to set up activities in Hong Kong. For the moment, their role in the network is rather marginal, but they have a potential of attracting international attention to local enterprises and help to establish the role of Hong Kong as entrepreneurship hub of Asia. Their work with local business angels is an important step towards helping young businesses to flourish.

Universities. Local universities are the feeders of Hong Kong's startup ecosystem. They train entrepreneurs, help to devise new programs in support of entrepreneurship and conduct research to foster local innovation. They work well with government bodies and community initiatives, but they could also develop more connections with local funding providers and established local businesses to encourage the development of spinoff ventures. Also, more involvement from all tertiary education institutions should be encouraged to enable the entire student community to benefit from access to other players in the network.

R&D Institutes. Local public and private research institutes remain to a large extent disconnected from the startup community. Most of their ties are built with the local government bodies and engage in yearly industry-creating activities that involve a wider audience, but have little impact on the society in general. While their cooperation with industry members is well-documented, they are mostly engaging well-established businesses and provide little support to startups, which may adversely impact the development of local industries. According to engineers from NAMI and ASTRI, not more than 10% of collaborative projects realized by both institutes are performed in cooperation with startups. In their assessment, the relatively low proportion of startup cooperation results from the institutes' limited capability for searching and selecting promising startups to work with. Similarly, R&D institutes have limited experience with developing relationships with investors who would be interested in commercializing their research outputs. We see research institutes as connectors and feeders for local industries in driving change and innovation. This role is yet to be enhanced.

Startup Academies. Relatively new to the local ecology, startup academies are the private counterpart to the "ecosystem feeder" activity of local universities. They provide highly targeted and specialized training that is bound to equip local entrepreneurs with necessary skills to develop their businesses. They work very closely with co-working spaces and engage community initiatives in co-development of their activities. Overall, their cooperation activities within the ecosystem are fairly well-developed, but they could embrace further their social mission of training entrepreneurs and open up some of their activities to a wider audience, who may not be able to afford their fees. Creating more ties with the government and universities could help in enhancing their role as feeders and in setting up subsidized programs open to a larger population of startups.

Online Knowledge Portals. While online knowledge portals constitute a somehow passive group of ecology participants, they still are an important element of the ecosystem. They are bound to play the role of information brokers, providing a platform for information and other resource exchange between the actors in the network. With exception of some notable examples, such as the event portal and startup database managed by StartupsHK, at the moment their role is marginal, mainly because they have not been fully embraced in their capacity as information exchange tools by local community initiatives, universities, or co-working spaces. They lack specialization, create informational redundancies, and many of them are only sporadically updated, so it is difficult for their operators to establish a strong position in the ecosystem. They require a more dedicated approach in putting them on the local startup map. Including them as a part of communication routine could potentially improve the visibility of startup community across Hong Kong.

Media. The role of the media in bringing together the startup support community and creating opportunities for exchange of ideas and knowledge is undeniable. Local entrepreneurship-focused media underwent a recent expansion, with new online and offline titles, such as Jumpstart Magazine, being added. They are already doing a good job connecting different groups of stakeholders and playing the role of information brokers in the network. However, since the number of publications is still quite limited, their efforts do not reach the general public just yet and their impact is restricted to the niche market of the startup community. Also, some of the titles often rely on repeated cooperation with the same actors in the network and unintentionally limit the exposure of other players in the ecosystem, which may inadvertently impact how the startup ecology is perceived locally. If there are no new stories about new happenings, new businesses, and new ideas, but same names are being recycled in the press, one might get an erroneous impression that the entire ecosystem is stalling.

Accelerators/ Incubators. Local accelerator and incubation programs are an important part of the ecosystem and, similarly to co-working spaces, could take up the role of the ecosystem brokers. As many as 64% of interviewed experts consider government's science parks and incubation programs as strength of Hong Kong in promoting entrepreneurship locally. Currently, the connections of accelerator/ incubator group are well-utilized, at least for the government-run programs. For instance, Cyberport and the Hong Kong Technology and Science Parks are working closely with business angels and venture capitalists to provide investment to their incubatees and with local universities to help refine startups' business sense and innovation capabilities. Their role as ecosystem connectors could further be strengthened by including media, established firms, and research institutes in their efforts to develop local startups. Also, since currently most of connections are generated by government-bound initiatives, more networking activity from private sector incubators and accelerators could be developed to increase their impact on the ecology.

Chambers of Commerce. Chambers of commerce are industry associations created to represent interests of various groups of businesses. A large group of local chambers of commerce is present in the ecosystem, however very few of them actually contribute to the development of local startup ecology. They mostly liaise with the government for their own benefit and represent established companies rather than startups. Out of 128 chambers identified, only nine had more than two connections to other players in the network. Also, since there are so many of them in the ecology, it can be challenging for other stakeholder groups to identify the best fit in partnering to help the startups. Those chambers that take the initiative and assume the mentorship role in integrating new businesses into the local ecology might highly benefit from the reputational and innovation opportunities created through this forward-looking cooperation.

Established Businesses. Although present in the ecosystem dynamics, well-established local businesses are not very well invested in building the startup community. Their relationships are mostly with the government and they serve strategic objectives of individual businesses. There are exceptions, such as Swire Properties or Google, but they are few and far between. In previous chapters we discussed the reasons for low involvement of established firms, which included low perceived value of cooperation with startups and their commitment to traditional business models. Their role as mentors, advisors, and resource providers for the startup community yet needs to be established. Through the exchange, well-established companies could not only gain access to new ideas and innovations, but could also leverage their position to become local industry leaders. In particular, establishing the advisory role could be beneficial to smaller, well-established businesses entering the relationship. The advisors, who have an economic relationship with the company they are advising, can benefit from the relationship by revamping their own businesses, enhance work environment for their employees, and accelerate the growth in their industries.

Family Offices. According to Campden Wealth Research, there are around 100 to 120 family offices across Asia Pacific, with around 40 of them located in Hong Kong[45]. We have identified six that are directly contributing to the startup ecosystem of Hong Kong. Yet, their involvement is not very well established just yet. All identified family offices had single ties to other players, which is a sign of their commitment not being fully developed. Their contribution mostly involves co-organization of startup events, but we also recorded few instances of family offices providing startup investment. As

[45]Campden Wealth Research (2014), unpublished data

with well-established businesses, we see their role as mentors and feeders to local startups. Most of local family wealth comes from entrepreneurial activities, so family offices are in a good position to provide advice to startups and help them with resource acquisition. To this end, family offices should increase their engagement with the startup support community and develop their network to a greater extent.

Service Providers. Service providers are the largest group of stakeholders in the startup ecosystem of Hong Kong and provide a wide range of services for startups to choose from. They mostly contribute by offering discounted services of accounting, marketing, consulting, or web design to startups in the local economy. Most of them work with co-working spaces, local government, and venture capitalists to offer bundled services. Their role as supporters is already well-established, but it could be further reinforced if service companies took the long-term approach to helping startups. Redesigning their marketing budgets to accommodate free of charge services to promising startups could be rewarded with long-term business relationships with fast expanding businesses.

Business Angels. Business angels are individuals who put forward their financial resources to invest in startups. Individual investors are hard to tack down, but local business angel associations are more easily discernible. We have identified 4 associations that are actively involved with the startup community. Given the size of this group of stakeholders, their networking activities are extremely well developed. In fact, business angels have the most efficiently organized networks in the entire ecosystem. Working closely with community initiatives, universities, accelerators/ incubators, and co-working spaces, gives them an edge in identifying investment opportunities and in connecting startups they invest in with other potential feeders and ecosystem brokers. Hong Kong Business Angel Network (HKBAN) is especially prolific in using its network to develop own activities and increase the general exposure of startups. Overall, angel investors are well prepared to continue the development of their role as feeders of the startup ecosystem.

Venture Capitalists/ Private Equity. Surprisingly, even with 56 venture capital and private equity firms or their associations involved in the ecosystem, their actual contribution is still limited. While they are well placed within the ecosystem to identify new investment opportunities, their actual role of providing startup financing is still under development, mostly because the majority of firms in this group has singular connections to other players in the ecosystem. Our research has shown that Hong Kong-based venture capital firms are principally investing in China (53.3%) and USA (24.4%), and Canada (6.5%). Only 1.8% of local venture capital investments were directed towards Hong Kong startups in years 2009-2013[46]. Local venture capital firms often position themselves as network brokers, or community gatekeepers, which gives them an advantage of recognizing new investment opportunities quick. However, it also creates a distance between investors and entrepreneurs. This could be contributing to the strong general views about lack of accessibility of local investors. It could be beneficial to this group of stakeholders and the entire ecosystem to modify the character of VCs and private equity firms and to assume the role of startup feeders. In the long run, it could create a more open dialogue between local investors and other players in the ecosystem and, in consequence, improve the overall quality of local startups.

Crowd-funding Platforms. Local crow-funding platforms are relatively few and new to the ecology. As potential funding providers they work well with community initiatives. This allows them to identify startups that might want to use their services. However, legal restrictions from the Securities and Futures Commission on the private equity trade limit their possibility of opening their services to a wider audience[47]. To strengthen their position as ecosystem feeders, they should consider developing stronger ties with accelerators/ incubators, co-working spaces, and universities to facilitate the access to their services to their startups. Also, connecting with business

[46]Crunchbase database analysis, accessed in June 2014

[47] Securities and Futures Commission. (2014). Notice on Potential Regulations Applicable to, and Risks of, Crowd-funding Activities, accessed in May 2014: http://www.sfc.hk/web/EN/files/ER/PDF/Notice%20on%20Crowdfunding.pdf

angels could help them to overcome the restrictions in private equity trade and gain access to a larger pool of individual professional investors.

Banks. Although local banks are present in the startup ecosystem, their contribution is not very well developed. They mostly work with other financial institutions and do not engage to a great extent with local entrepreneurs. Some notable examples, such as HSBC's Young Entrepreneur Award, serve as proof that not all banks are disinterested in helping local entrepreneurs, nonetheless, bank loans for local startups are considered difficult to secure. Most of banks require real estate, cash, or other assets as collateral for securing loans. Since business startups are well-known to suffer from limited resources, bank loans are out of reach for many. As a result, bank loans are the least used financing option for local startups, with only 6 to 11% of startups using bank services to finance their activities[48]. To improve the situation, six local banks work with the government to offer government-backed loans though the Microfinance Scheme or SME Financing Guarantee Scheme. Overall, banks role as startup community feeders is still under development.

[48] CUHK analysis

Table 3.Assessment of Stakeholder Roles[49]

Type of actor	Desired Role	Role fulfilment
Accelerators/ Incubators	Ecosystem brokers	Very good
Angel Investors	Feeders	Very good
Banks	Feeders	Very poor
Chambers of Commerce	Mentors	Very poor
Community Initiatives	Leaders	Good
Co-working Spaces	Ecosystem brokers	Fair
Crowd-funding	Feeders	Poor
Established Firms	Mentors/ feeders	Very poor
Family Offices	Mentors/ feeders	Very poor
Foreign Governments	Supporters	Good
Hong Kong Government	Supporters	Good
Media	Information brokers	Good
Online Knowledge Portals	Information brokers	Fair
R&D Institutes	Feeders	Very poor
Service Providers	Supporters	Good
Startup Academies	Feeders	Good
Universities	Feeders	Good
Venture Capital/ PE	Feeders	Poor

[49] Note: we use a 5-point assessment scale: very poor – poor – fair – good – very good to evaluate to what extent desired roles have been fulfilled by each group of stakeholders.

Connecting the Dots. Local startup support ecosystem is work in progress (Table 3). Many connections are still missing or are underdeveloped, which undermines system-wide efforts of helping local startups. Our panel of interviewees offered several solutions on how to bring the ecosystem players together. Some suggested for the community initiatives to join their forces in organizing **yearly startup awards** with multiple award categories: best local startups, best imported startup, best angel investor, best co-working space, best entrepreneurship promoter, etc. Such wide-scale event would not only empower the ecology to get to know each other, but would also entice media attention and help to build a wider audience for startup events. With the award organization entrusted to the community initiatives and not to government bodies, their leadership role will be emphasized and acknowledged.

Others suggested the development of **financing schemes** that would allow private and institutional investors to join forces and share the risk of investing in startup ventures. Such financing schemes could become a part of incubation/ acceleration programs, be offered via co-working spaces, or through university initiatives, which would significantly increase the positive joint impact of ecosystem brokers and feeders.

Finally, organizing **startup development programs** hosted by universities, accelerators/ incubators, or co-working spaces that engage multiple elements of the ecosystem in providing training, mentorship, and resources to local startups could be helpful in developing strong bonds between various groups of stakeholders and enhancing the mutual understanding of each other's objectives.

Key Findings on Ecosystem Synergies

- Entrepreneurship support ecosystem of Hong Kong underwent major changes in the past 5 years, tripling in size since 2009;
- While there are many organizations willing to help local startups, they do not know how to cooperate with each other to create synergies in startup support activities;
- Some notable examples of how cooperation can be developed exist; nonetheless, most of organizations in the ecosystem network suffer from a disconnected mindset, which hinders their efforts in helping new firms to develop and grow;
- Ecosystem network participants need to define their roles as ecosystem leaders, brokers, feeders, supporters, mentors, or information brokers, and shape their activities according to their desirable roles;
- We can enhance the cooperation in the ecosystem by devising events and support programs that require the involvement of multiple stakeholder groups.


CHANGES IN ORGANIZATION OF MARKETS
Give me but a firm spot on which to stand, and I shall move the Earth.
- Archimedes

Build on an excellent infrastructure

> **You put your money in China, you don't get it out; you put your money in the US, it will get taxed. In Hong Kong - you get your return.**
>
> *- Simon Squibb*

Infrastructure and regulatory conditions have high influence on entrepreneurship rates in a country. They are a vital part of the basic conditions that enable the development of new businesses. Overall, Hong Kong scores at 2nd position among 147 economies in the Global Competitiveness Report 2013-2014 in terms of fulfillment of these basic requirements for building a favorable environment to entrepreneurship[50]. These include public and private institutions, infrastructure, macroeconomic environment, and health and primary education.

Our panel of experts was positive about the general regulatory environment and about the ongoing efforts to improve the intellectual property laws in Hong Kong. They praised the simplicity of business registration rules, transparency of procedures, rule of law, prevalent learning attitude, and the variety of support programs offered to entrepreneurs.

Ease of Starting a Business. Setting up a business in Hong Kong is cheap, fast, and simple. According to World Bank's Doing Business Report, Hong Kong ranks as third economy in terms of the ease of doing business in 2015[51]. It takes 2.5 days to start a business and there are 3 procedures involved in the registration process. In comparison, it takes 31.4 days in China and there are 11 different procedures to follow.

Learning Attitude. Even with high rankings in simplicity and ease of doing business, Hong Kong government is still open to learning and introducing improvements to the system. The learning attitude of the higher ranking government officials is reflected in multiple international missions to other markets, where ideas for

[50] World Economic Forum (2014) The Global Competitiveness Report 2013–2014: Full Data Edition, retrieved in May 2014: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

[51]World Bank (2014) Ease of Doing Business Index 2015, Doing Business 2015, retrieved in March 2015: http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB15-Full-Report.pdf

increasing entrepreneurship support are being exchanged and Hong Kong officials are learning about best practices.

Transparency of Administrative Decisions. In comparison to other countries, Hong Kong has one of the most transparent economies in the world. Our panel of experts considered it as one of the most important factors in creating positive environment for local entrepreneurs and 33% enumerated it as one of the top factors in this regard. Similar results were obtained in the World Economic Forum's Executive Opinion Survey from 2014[52]. Hong Kong was assessed as high performing in ensuring the transparency of policymaking and the experts argued it was uncommon to make undocumented extra payments or bribes connected with imports and exports, public utilities, annual tax payments, awarding of public contracts and licenses, or obtaining favorable judicial decisions.

For local entrepreneurs, this means that everyone is subject to equal treatment in dealing with government licensing, regulations, and procedures. Rules and procedures are transparent and, in case of novel situations, if well-justified examples from other markets or other industries are presented, the government generally acts in favor of local entrepreneurs.

Regulatory Quality and Rule of Law. The quality of legal environment and the rule of law were also considered as strength by our experts. Extent to which people have confidence in and abide by the rules of society, in particular the quality of contract enforcement, property rights, and the courts, as well as the low likelihood of crime and violence, was assessed as high for Hong Kong. Our panel of experts was also positive about the recent efforts in restructuring the legal framework of intellectual property rights protection. Eighty percent considered property rights of Hong Kong as its strength and 89% thought they were at least as strong as 3-5 years ago.

[52] World Economic Forum (2014) The Global Competitiveness Report 2013–2014: Full Data Edition, retrieved in May 2014: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

Refine the administrative rigor

In 2013, **39%** of potential foreign entrepreneurs received visa approval from the Immigration Department, down by **41%** comparing to 2012

In comparison to other countries, Hong Kong scores high in terms of the government efficiency. World Economic Forum's experts considered the legal framework of Hong Kong to be well-prepared to challenge outdated or unfavorable regulations and the burden of regulations to be low (Fig. 17)[53]. Although, in general, Hong Kong government is seen as quite efficient in introducing and implementing policies and managing the public spending, our experts were torn with regard to the actual efficiency of its entrepreneurship-focused policies. Half of them considered them to be Hong Kong's weakness and the other half called it its strength. They were pointing out to some involuntary inefficiency that has been created between the strategic and operational levels of policymaking and policy implementation.

Inadvertently Inefficient Bureaucracy. The unwillingly inefficient bureaucracy was among the top most problematic factors in doing business in Hong Kong according to the World Competitiveness Report from 2014[54]. Close to 14% of experts interviewed for the report pointed to it as the main obstacle in doing business.

Our experts attributed it to two principal dynamics. First, policymakers are struggling to understand entrepreneurs' needs and startups are being treated as synonymous with SMEs[55]. In consequence, too many rules, such as annual auditing, from the well-established business world are being applied to local startups from their inception. To local entrepreneurs, this means that instead of focusing on

[53]World Economic Forum (2013) The Global Competitiveness Report 2013–2014: Full Data Edition, retrieved in May 2014: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

[54]World Economic Forum (2013) The Global Competitiveness Report 2013–2014: Full Data Edition, retrieved in May 2014: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

[55]SMEs stands for Small and Medium Size Enterprises

growth, new ventures are required to commit their scarce resources to preparing audit documents. Oftentimes, this would end up being nothing but a costly accounting exercise, since many startups are not profitable in their first few years of operations.

Second, decentralized responsibility for startup-related policies and support programs across governing bodies may be negatively impacting the implementation of such programs and it may contribute to creating discrepancies in strategic vision for shaping entrepreneurship development activities. There are at least nine government organizations catering to startups in Hong Kong and their scope of activities is divided into five different areas of support. They do not share responsibilities or resources in fulfilling their complementary objectives, so synergy in their activities is limited. The recently announced creation of **Innovation and Technology Bureau** (ITB) is a long-awaited step towards integration and coordination of policies, however, since its scope will be limited to innovation and technology areas, not all startup-related activities will benefit from a centralized planning and supervision of ITB.

Immigration Policy. The experts also mentioned the demanding, unclear, lengthy, and complex visa application procedures that need to be repeated every year as an obstacle to attracting and maintaining startups from abroad. Data from the Immigration Department confirms their concerns. In 2013, the number of investment visa applications under the General Employment Policy (GEP) of Hong Kong peaked at 793, out of which 310 were approved. This constitutes a success rate of 39%. In 2012, every two in three entrepreneurship visas were approved and they accounted for 1.7% of all visas issued in Hong Kong under this scheme[56]. Naturally, one does not need a dedicated visa to register a business in Hong Kong, nonetheless the immigration policy prohibits holders of employee and student visas to run their own businesses in parallel to their full-time occupation. While students still have the option of applying for an additional year of unconditional stay after their graduation, employed highly-skilled personnel do not hold this right and are bound to leave Hong Kong upon the expiry of their contract. The new policy address for 2015 promised to **relax GEP stay arrangements** to allow for more flexibility in setting up as foreign startup in Hong Kong and to ensure more transparency through **publicizing the assessment criteria** considered when processing applications for investment under GEP.

Operational understanding of startup needs. At the operational level, government officers have limited understanding of strategic objectives for developing innovation and fostering entrepreneurship in local industries, and sometimes create unnecessary obstacles to implementing new solutions in existing industries. In such novel situations, entrepreneurs are better off implementing solutions new to Hong Kong but not new to other markets, because it is easier to obtain necessary permits based on examples from other countries. The situation is much more complicated when a startup tries to implement a solution that is new to local and foreign markets. Lack of precedence makes it much harder to receive favorable opinion from operational level officers. We call it the "not invented here" irony, where ideas copied from other markets are better seen and received than home-grown ideas.

On one hand, the government is working hard to promote innovation and offers a wide range of funding opportunities to help local startups with patent applications, research and development funding, or consultancy schemes. On the other hand, local bureaucracy sometimes inadvertently acts as an obstacle in commercializing and developing innovative business ideas.

Simple Remedies. Most of these shortcomings could be easily neutralized by extending the **training in entrepreneurship** and innovation to lower-level operational staff. Improving the general understanding of startup needs and challenges could potentially relax some of the unnecessary hurdles created because of the limited grasp of local administrators of the startup environment.

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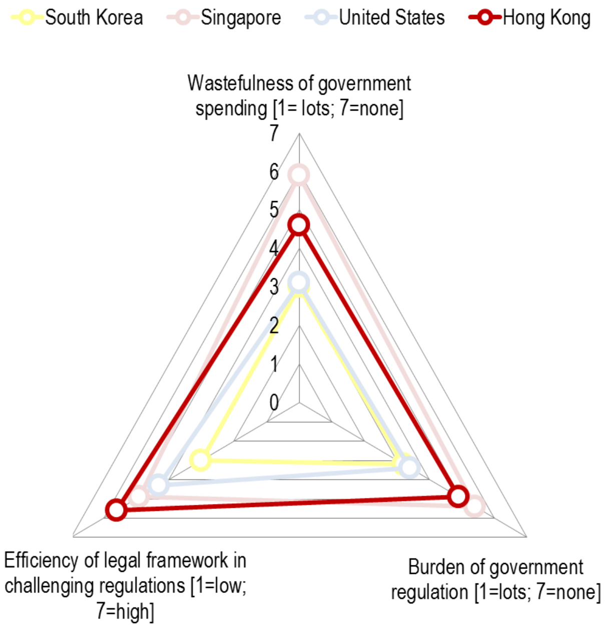
[56] Immigration Department HKSAR, unpublished data

Also, few **regulatory adjustments** could potentially help local entrepreneurs to grow their businesses. A selection is discussed below.

Figure 17. Assessment of Hong Kong government efficiency[57]



[57]World Economic Forum (2013) The Global Competitiveness Report 2013–2014: Full Data Edition, retrieved in May 2014: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

Professionalization of Intellectual Property Specialists. For the moment, the profession of Intellectual Property specialists in Hong Kong is not regulated by law, which means that anyone can claim to be an expert in the area. There is no examination, no training, no guidelines, and no code of conduct applied in the industry. Lack of highly-trained professionals who would combine legal knowledge with industry expertise means that most of the intellectual property activities are being managed by lawyers who might not necessarily have the expertise to advise companies on the best IP filing strategies or who are able to advise their clients on whether their innovation adheres to the industry or patent office standards. A unified and strengthened IP policy, that is currently being debated, could be beneficial to overcoming these obstacles.

Copyright Laws. In the modern era, innovation and creativity have become dependent on copyright protection and its limitations. Since the evolution of the internet and digital works the existing copyrights have proven to be too restrictive in their interpretation. For this reason, creative works such as satire, caricature, and pastiche have been lingering in the gray zone of copyright infringement. An updated flexible exception regime that could fix the issue, but it has not yet been introduced in Hong Kong. The Government has presented the Copyright (Amendment) Bill 2014 in the Legislative Council to update Hong Kong's copyright regime and ensure that it keeps pace with technological and overseas developments. It is the second attempt to modify the copyright laws after the 2011 lapse of the previous bill. The positive impact of flexible copyright laws has been proven in other countries where a direct link between law relaxation and the development of innovative internet services has been demonstrated.

Crowd-funding Laws. Crowd-funding platforms close an important gap in financing startups. For firms seeking for seed funding above HK$ 500,000 but less than HK$ 7.8 million, there are very few options available on the market other than seed capital or angel investors, according to research from World Bank (2013)[58]. Our analysis revealed

45% & 48%

Proportion of potential entrepreneurs from EYE survey who consider regulations and policies in starting their business and the share of those who abandon the idea because they see it as a serious obstacle.

[58]infoDev, Finance and Private Sector Development Department (2013) Crowdfunding's Potential for the Developing World, , Washington, DC: World Bank

that seed and angel types of investors in Hong Kong have more international outlook, so crowd-funding seems like a viable alternative for local startups. However, a recent memo from Securities and Futures Commission (2014) warned the general public about potential risks related to crowd-funding and clarified its position as to the illegality of offering equity-based investment opportunities to non-professional investors[59]. Hong Kong laws are different in this respect from the US regulation that provides an online mechanism for companies to sell securities or equity in their businesses to non-professional investors (JOBS Act 2012). In consequence, Hong Kong based non-professional investors can only participate in reward-based projects. This issue may potentially limit the use of crowd-funding platforms in Hong Kong.

Immigration Laws. Flexible immigration laws are favorable to encouraging the influx of migrant entrepreneurs. Our experts suggested setting up a panel of experts who would evaluate the business plans submitted together with visa applications and who would be able to accelerate and simplify the investment visa application process. Also, relaxing procedure by allowing higher degree students of final years and long-term employment visa holders to start their businesses would help to retain the talented individuals with high motivation to launch their businesses. With a proven track record of their contribution to Hong Kong's society and their knowledge of local regulations they are well-suited candidates for starting businesses locally. We hope these issues will be considered in the recently announced revamping of visas under the General Employment Policy.

[59] Securities and Futures Commission (2014) Notice on crowd-funding regulations, accessed in May 2014: http://www.sfc.hk/web/EN/files/ER/PDF/Notice%20on%20Crowdfunding.pdf

Key Findings on Organizational Changes

- Hong Kong is well prepared for receiving entrepreneurs. Its regulations, transparency in administrative decisions, and the rule of law make starting and running a business easier to many;
- There are several areas that require attention. Improving communication between strategic and operational activities, refining the implementation of policies, and increasing the understanding of startup needs should help facilitating the development of startups in Hong Kong. These can be easily achieved through entrepreneurship training of operational level officers;
- Although Hong Kong is constantly working on improving its policies, it requires a further and swifter adjustment in its legal infrastructure to accommodate the fast-paced technological and social developments of the 21st century.

CHANGES IN HUMAN CAPITAL

We have to continually be jumping off cliffs and developing our wings on the way down.

– Kurt Vonnegut

Relay the creative spark

Table 4. Heat Map for country rankings of general and commercial creative outputs[61]

	Global Innovation Index Ranking (From 1, the best, to 143, the worst)	Hong Kong	China	Israel	Singapore	South Korea	UK	USA
General	YouTube uploads (scaled by population 15-69 years old)	2	n/a	5	12	32	4	1
General	Wikipedia monthly edits (per million population 15-69 years old)	8	117	6	48	50	11	37
General	National feature films (per million population 15-69 years old)	14	86	27	35	24	17	36
Commercial	Global entertainment and media output (per thousand population 15–69 years old)	18	49	22	19	20	8	4
Commercial	National Office Resident Trademark Applications (per billion PPP$ GDP)	37	8	92	82	23	56	84
Commercial	Cultural & Creative Service Exports (% total trade)	45	39	53	34	33	1	24
Commercial	Creative Goods Exports (% total trade)	73	1	31	10	22	18	33

In 2011, Martin Prosperity Institute had published a report on Global Creativity, which provided empirical arguments linking country-level creativity to entrepreneurial activity rates. The study's statistical analysis showed that the overall country-level creativity is very highly correlated with entrepreneurial activity as measured by Global Entrepreneurship Monitor (0.81 correlation). Overall, Hong Kong scored at 20th position among 82 economies in the study[60]. A relatively low score for local creativity can be associated with to two factors.

Creative Class. First, the share of employed population engaging in creative professions is relatively lower in comparison to other countries[61]. While Hong Kong has 35% of country's labor force that is engaged in a higher degree

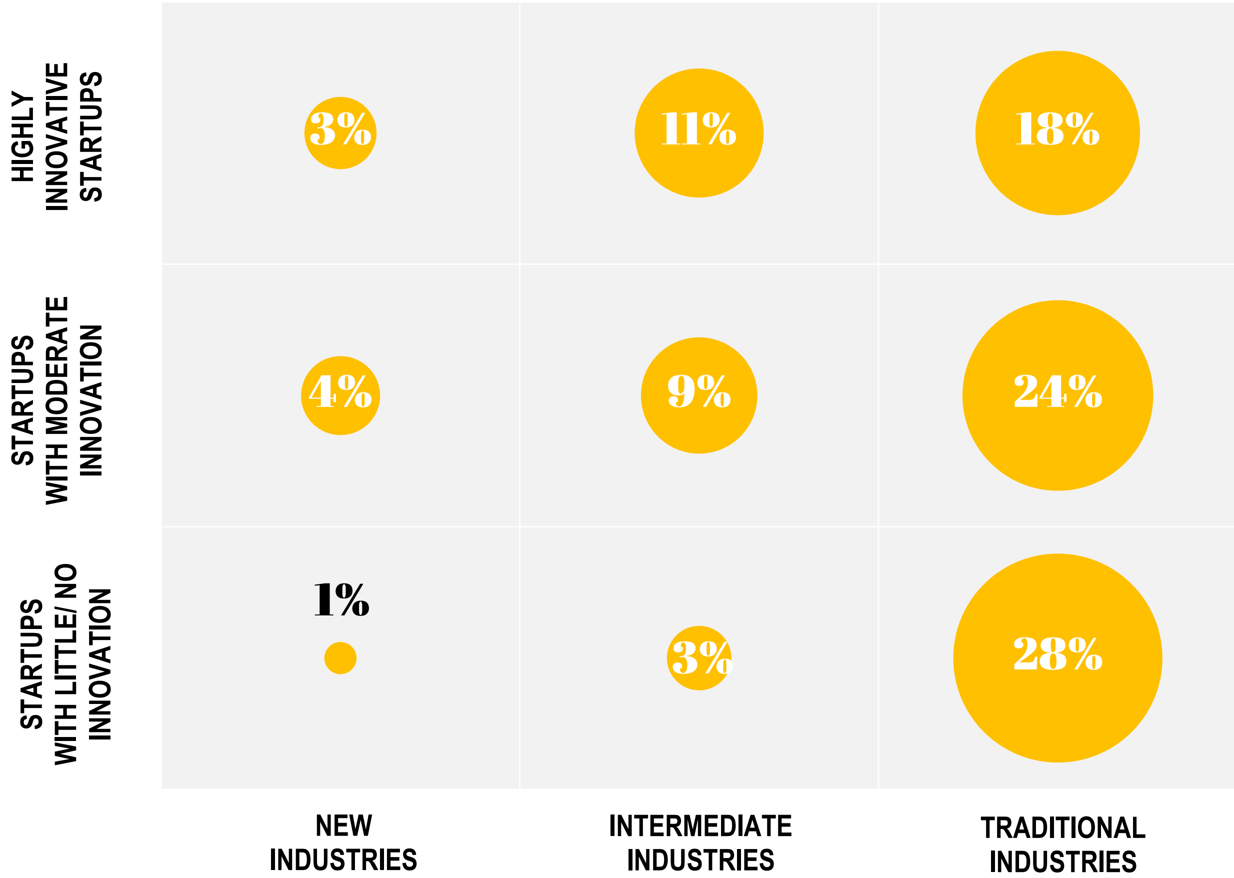
[60] The Martin Prosperity Institute (2011) Creativity and Prosperity: The Global Creativity Index, Retrieved in May 2014: http://martinprosperity.org/2011/10/01/creativity-and-prosperity-the-global-creativity-index/

[61] Cornell University, INSEAD, and WIPO (2014) The Global Innovation Index 2014: The Human Factor In innovation, Fontainebleau, Ithaca, and Geneva.

of problem solving in their everyday work[62], in Singapore the ratio is of 47%. As a result, Hong Kong ranks relatively low globally on the in local talent scale with 37th position in the Global Creativity Index (2011)[63]. The creative class of working population needs to be developed, more researchers need to be nurtured in the economy, and tertiary educations need to attract more young people to build the necessary human capital stock to foster local entrepreneurship.

Untamed Creativity. Second, local creativity does not find commercial outlets as shown by the Global Innovation Index (2014)[64]. While in general terms Hong Kong is highly creative comparing to other countries, the commercial application of local creativity is underdeveloped (Table 4). For example, Hong Kong is the second country in the World with the largest number of YouTube video uploads per working citizen. However, when it comes to actual global entertainment and media output or creative goods exports, Hong Kong lags behind

Figure 18. Assessment of innovativeness of EYE Program business ideas[65]



[62] Data from International Labor Organization; occupations include computer science and mathematics; architecture, engineering; life, physical, and the social sciences; education, training, and library science; arts and design work, entertainment, sports, and media; and professional and knowledge work occupations in management, business and finance, law, sales management, and healthcare.

[63] The Martin Prosperity Institute (2011) Creativity and Prosperity: The Global Creativity Index, Retrieved in May 2014: http://martinprosperity.org/2011/10/01/creativity-and-prosperity-the-global-creativity-index/

[64] Cornell University, INSEAD, and WIPO (2014) The Global Innovation Index 2014: The Human Factor In innovation, Fontainebleau, Ithaca, and Geneva.

other developed economies, taking the 18th and 73rd place respectively.

Entrepreneurial Creativity. We have noticed the same pattern in our study of local entrepreneurs. At the initial stage of our study, we asked potential entrepreneurs to self-assess the strength of their individual skillsets. A whopping 74.6% reported creative thinking as their strength, which was the most common skill indicated by study participants. Also, we have enquired about how the supply and use of technology and creative ideas impact their decision to become entrepreneurs. Again, study participants indicated it as one of the three most important factors influencing their choice of becoming an entrepreneur and over 90% indicated that the impact is was positive.

From these responses, one would expect the startup ideas to be highly creative and innovative. They were, to a large extent, with 72% of startups offering varying degrees of innovation, but we would like to see more out-of-the-box thinking and more startups from non-traditional industries (Fig. 18). The 148 business ideas presented by study participants were mostly focusing on traditional industries (69.6%), where they provided an online solution (84.3%) to the existing problem[65]. Examples include online trading platforms connecting more or less niche communities or businesses, travelling sites, networking apps, or location-based services. Most of them relied on B2B (32.6%), B2C (28.3%), or these two markets combined (34.1%) to increase their scope of activities and address needs of global consumers (57%). The majority of businesses was planning to use a single revenue model (52.6%) and was focusing on advertising as the main source of income (55.6%).

Also, the assessment from multiple external judges has revealed that only 32% of submitted projects could be considered as highly innovative and putting their high levels of self-proclaimed creativity into practice.

Rechanneling Local Creativity. Promoting entrepreneurship, launching of mentorship programs, and better training of potential creative class could help in improving how local creativity is being put into business practice.

Educational institutions in Hong Kong could prove particularly helpful in redirecting local creativity through attracting more students and providing curricula that form necessary skills helpful in transforming creative thinking into innovation. Changes are already being implemented. In 2012, local universities have introduced the 4 year curriculum in order to further improve the quality of education. The new curriculum revised educational programs while putting more emphasis on multidisciplinary approach, critical intellectual inquiry, and community engagement. The **common core curriculum** will hopefully initiate changes in the critical analysis skills and inspire innovation in local graduates.

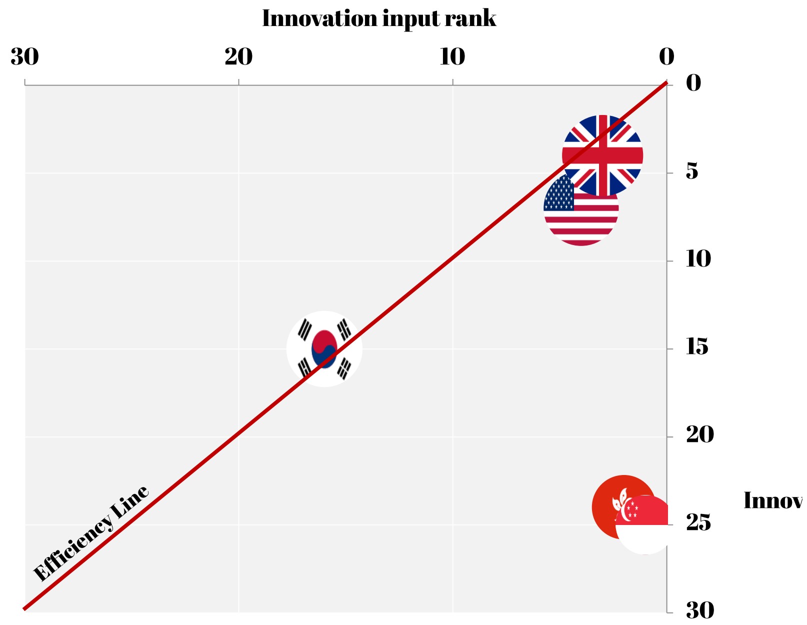
[65]Data from EYE Program research, N = 148, percentages amount to 100%

Key Findings on Creative Spirit

- Hong Kong is a very creative place, but it does not capitalize on its creativity very well;
- The creativity could be redirected towards commercial outputs and could maintain local innovation if mentorship programs and general education become more geared towards multidisciplinary enquiry and critical thinking.

Ignite the self-propelling cycle of innovation

Figure 19. Comaprison of Innovation Input and Output Subindexes across Chosen Countries[66]



According to the newest Global Innovation Index 2014, Hong Kong dropped by 3 positions comparing to previous year and currently ranks as the 10th most innovative economy worldwide comparing to other 142 countries in the study. While its innovation input, defined as preparedness of human capital, good infrastructure, market and business sophistication, and efficiency of institutions, has been assessed in the 2nd position globally and strong, the innovative output was what presented a challenge in developing local innovativeness. The innovation efficiency ratio, measured as a share of output to input scores, was at 0.66, meaning that out of one unit of innovation input Hong Kong is producing 2/3 of innovation output unit (Fig. 19)[66].

In comparison to other countries such as South Korea or the United Kingdom, which have efficiency ratios closer to 1, Hong Kong appeared to be less capable of turning its resources into innovative outcomes. Indeed, even the Government's audit documents assessing the innovation situation in Hong Kong call it "modest": "Its [Hong Kong's] rankings in the innovation and technology sub-components of the indices were modest. For example, Hong Kong was ranked 23rd in the innovation sub-component of the Global Competitiveness Index, behind Taiwan, Singapore and South Korea."[67]

Vicious Circle of "Crouching" Innovation. The reason behind the low innovation visibility and productivity

[66] Cornell University, INSEAD, and WIPO (2014) The Global Innovation Index 2014: The Human Factor In innovation, Fontainebleau, Ithaca, and Geneva. The size of the flag bubble reflects the efficiency ratio score for a given country. The larger the bubble is, the better the score it represents.

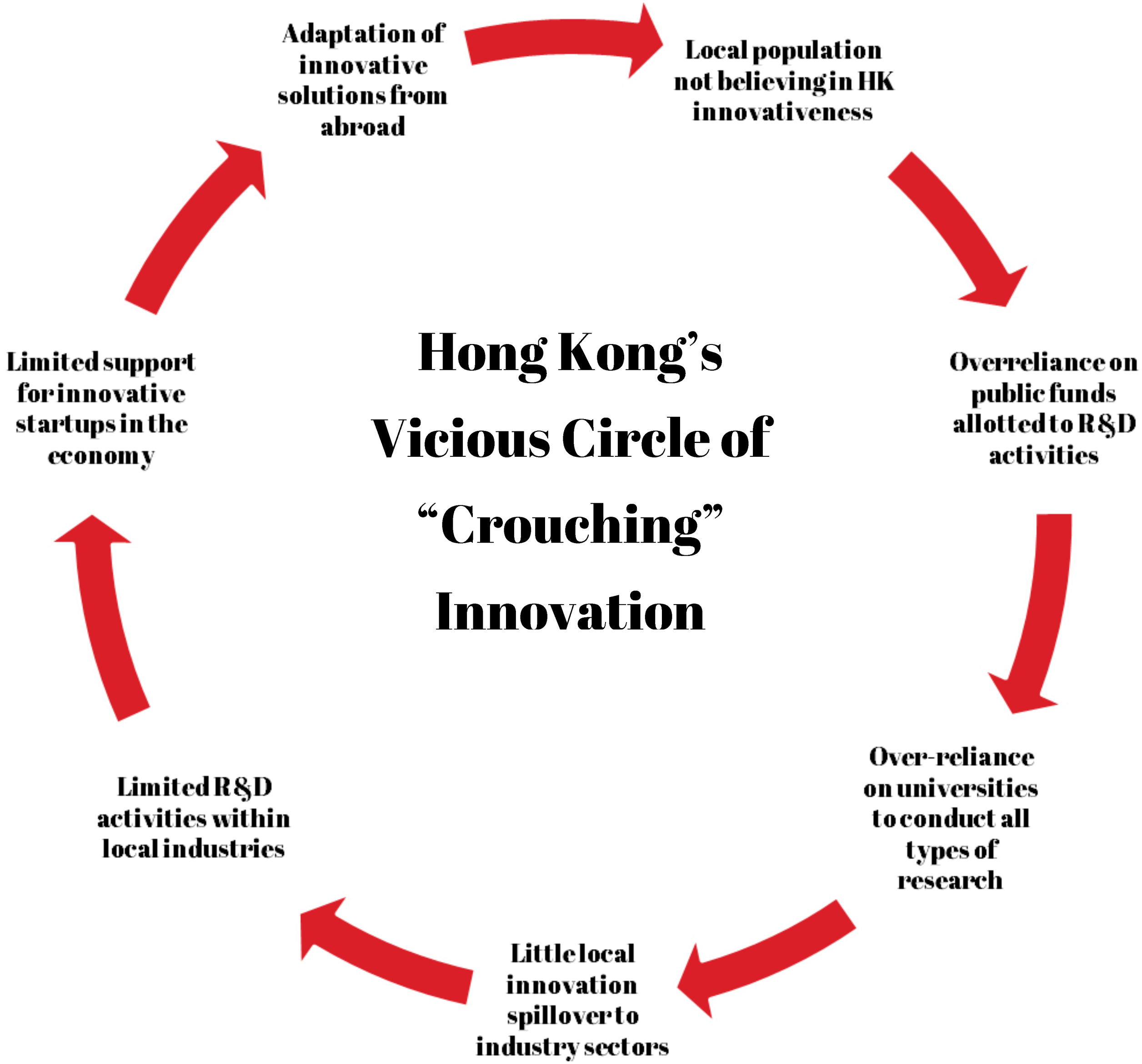
[67] HKSAR Audit Commission (2013), Chapter 10, Innovation and Technology Commission, Innovation and Technology Fund: Management of projects, Hong Kong, 30 October 2013, p.15

is the innovation deadlock in which local economy has entrapped itself throughout the years. It results from negative reinforcement of innovation-limiting activities that are the consequence of government, university, population, and business behaviors. We call it the vicious circle of "crouching" innovation, whereby innovative outputs go unnoticed in some areas and are limited in others (Fig. 20).

Over-reliance on Public Funds. According to statistics from UNESCO, Hong Kong allocates yearly 0.75% of its GDP to research and development, which is an equivalent of US$ 352 per capita[68]. In comparison, countries such as Singapore, Israel, or South Korea are allotting from 2 to almost 4% of their yearly GDP, or around US$ 1,100 per capita, on research activities. Proportion-wise, Hong Kong government and business enterprises are the largest contributors of research money, responsible for 47.3% and 47.6% of funding respectively[69]. While it is quite usual for the government and local firms to shoulder most of research activities, the imbalance in Hong Kong results from the augmented role of Hong Kong government in providing for research undertakings. In other economies, it is business enterprises that provide up to 72% of funding as in South Korea or China. While in Hong Kong the government is to a large extent matching one-to-one industry's research expenses, in other economies it is playing a rather complementary role.

[68] UNESCO Institute for Statistics, accessed in September 2014: http://www.uis.unesco.org/Pages/default.aspx
[69]Idem.

Figure 20. Hong Kong's vicious circle of "crouching" innovation



Over-reliance on Universities. The pivotal role of government funding is reflected in how the research money is being spent. With such limited resources the priority in receiving the funds is accorded to universities. Indeed, Hong Kong's research and development activities rely heavily on universities. In 2010, the government put down money to finance 42% of university research[70] and 52.2% of all research activities were performed by local tertiary institutions[71]. In comparison, universities in Singapore were generating 28.8% of local R&D activities and in South Korea, only one in ten research projects was conducted at local universities. As a result, Hong Kong-based universities are bearing much more responsibility for both types of research: the advancing frontiers of knowledge basic research and the more grounded and functional applied research. This means that local tertiary institutions are accountable for two important research outcomes: delivering world-class peer-reviewed basic research and contributing to the economic advancement through knowledge transfer of applied research. For university researchers, it is a difficult choice to make since applied research is less likely to gain worldwide peer recognition and basic research may not be immediately applicable within the local economy. What makes the choice even more difficult is that in most local institutions the career advancement path has traditionally been designed to account for basic research achievement while putting less emphasis on the achievements in applied research fields. If we add to this that Hong Kong has a relatively small population of researchers as comparing to other countries, with 2,925 researchers per million people[72], the pressure on universities to deliver becomes very apparent. As a result, conducting applied or contractual research is occasionally treated as side activity and necessary evil. In fact, while the total number of university research projects has increased by 7.6% since 2009, the proportion of contractual research at universities has decreased by 10.2% in years 2009 to 2013[73].

University – Industry Spillovers. The increased research burden combined with basic research priority limits the innovation spillover effect that tertiary institutions might have on the local economy. Also, collaboration between universities and the enterprise sector has traditionally been relatively weak in Hong Kong. Things are improving though and in recent years more emphasis has been put on commercializing university technologies, rejuvenating of Knowledge Transfer offices, and opening up of local universities to industry cooperation. The Innovation and Technology Commission has recently set up a new Technology Start-up Support Scheme for Universities (TSSSU) to encourage students and professors from six local universities to commercialize university-based R&D results and launch tech spinoffs.

Until recently however, there were two principal ways in which universities in Hong Kong could develop cooperative R&D projects with the industry. They could either apply for government's matching funds within the Innovation and Technology Commission's University-Industry Collaboration Programme (UICP) or work directly with local and foreign businesses on research projects. For both types of funding the numbers and value have been increasing in recent years. In years 2009 to 2013, the number of ongoing projects supported through UICP increased threefold, from

94%

Proportion of local businesses which did not carry out any research activities in 2012

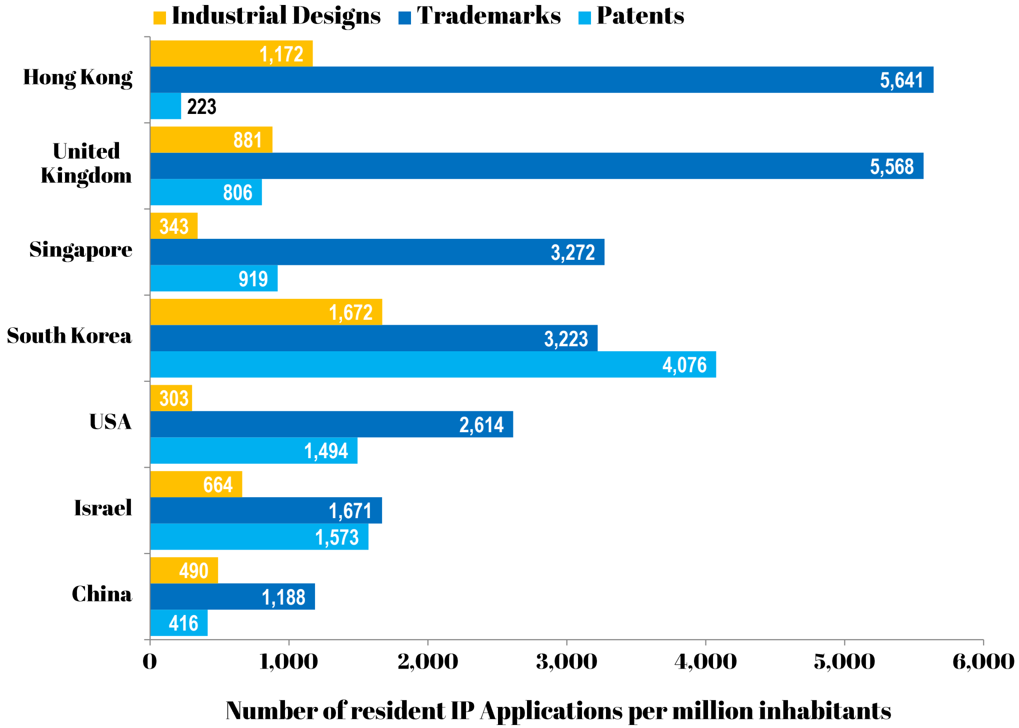
[70] University Grants Committee Statistics, accessed in October 2014
[71] UNESCO, Institute for Statistics (2014), retrieved in October 2014: http://www.uis.unesco.org/Pages/default.aspx

[72] UNESCO, Institute for Statistics (2014), retrieved in October 2014: http://www.uis.unesco.org/Pages/default.aspx. In comparison, Singapore has 6,307, South Korea has 5,451, and the USA have 4,650 researchers per million people.
[73] University Grants Committee statistics, retrieved in October 2014.

20 to 60 and the direct funding from industry had grown by 34.6%, from HK$ 1,639 million to HK$ 2,206.5 million. Nevertheless, out of 23,500 research projects conducted at local publicly funded universities academic year 2012/13, industry collaborations represent only a fraction of research activities, amounting to 2.1% across all universities[74]. Similarly, the most recent statistics reported by Knowledge Transfer Offices of publicly funded universities reveal that, until 2013 university technology has been licensed to a total of 219 outside organizations and a cumulative number of 72 active spinoff companies were funded as a result of university research[75]. Our panel of experts assessed the R&D transfer within the Hong Kong economy as a challenge, with 56% of responses indicating it is a weakness.

Industry R&D. Local firms still lack capabilities and mindset to adopt technologies streaming from universities and try to commercialize them. They also conduct limited research and development activities themselves. According to the recent survey with 1,001 local businesses from the Intellectual Property Department, only 6% of local firms carried out R&D activities in 2012. Within the remaining 94%, one in four businesses stated there were "no research and development needs for their business". This mindset was even more prominent for small companies, with less than 10 employees. Through our interviews we uncovered that there are two reasons for such state of SME mind. First, most of them operate in industries that benefit from the close proximity to Mainland China, such as trading, retail, and hospitality industry. Since the demand for their products and services remains high, they do not see the need of changing the ways they do business. Second, most of them are represented by family businesses, which, very often, value steady growth, traditional business models, and stability of the environment. As a result, they lock in the capital and resources that could feed the innovation and potentially kick-start new industries. Indeed, when enquired, only 12.9% of local businesses with less than 10 employees

Figure 21.Cross-country comparison of resident Intellectual Property Applications in 2012[77]



[74] University Grants Committee statistics, retrieved in October 2014.
[75] University Grants Committee, Institutions' Annual Report on Knowledge Transfer Recurrent Funding (2013), retrieved in October 2014: www.ugc.edy.hk/eng/ugc/activity/kt/kt.htm

have registered any trademark, patent, or design in Hong Kong[76].

Innovative Startup Support. The mindset that keeps local enterprise innovation in a deadlock also tampers with how well-established businesses interact with local startups. Inter-firm linkages among mature local firms and startups appear to be weak, especially since home-grown SMEs see startups as money-draining pits and not prospective cooperation partners, as noticed by several of our experts. They tend to emphasize how new businesses have an unstoppable appetite for financial resources while bringing nothing to the table. What they fail to see is that by unlocking their reserves of financial and non-financial resources to startups they gain the opportunity to revamp their businesses, rejuvenate their industries, or even kick-start new ones. Few of well-established businesses embraced this logic. One of the practices is to invest in startups by acquiring their technology and assimilating them into larger firm's operations. Within this practice, large businesses hire startup's founding teams as their employees to facilitate their work on the idea. However, this type of strategic thinking is still limited. In fact, our panel of experts evaluated Hong Kong's lack of focus on high growth startups as a potential challenge, with 73% of experts calling it a weakness.

[76]Intellectual Property Department & Mercado Solutions Associates (2012) Survey on Business Attitudes to Intellectual Property.

17%

Proportion of local manufacturers not engaging in OEM activities

Adaptation from Abroad. Instead of working with innovative startups, creating their own solutions or working together with other businesses on creating new approaches, many local companies are leaning towards adopting solutions that were tested on other markets. One of the major challenges indicated by our group of experts was that local businesses often rely on borrowing existing ideas without engaging in a creative process. Despite the fact that Hong Kong has a recently became quite prolific in trademark registration practices, with over 5,600 of trademarks per million inhabitants registered by Hong Kong residents locally and abroad and a 71% growth rate since 2008[77], local manufacturers still often resort to producing licensed goods or designing for well-known brands over creating their own brands. In the recent study by HKTDC, there were 83%, 61%, and 40% of companies engaging in OEM, ODM, and OBM business[78], respectively[79]. In fact, the number of industrial design applications filed by Hong Kong residents has remained the same since 2008 and accounted for 1,172 applications per million inhabitants locally and abroad[80]. Although these numbers seem high, the lack of growth in this area is a signal that the industry is stagnating. Similarly, local retailers are still likely to opt for foreign brands instead of supporting local brands in developing their product portfolios.

In our sample of existing businesses studied through EYE Program surveys, 17% companies admitted there was nothing innovative about their market, product, or technology and 18% claimed being involved in innovation in all 3 areas. Within those businesses, which reported some kind of innovation, the largest group, accounting for 36% of companies, was introducing new products to existing

[77] WIPO Statistics for year 2012, retrieved in September 2014: http://www.wipo.int/ipstats/en

[78] OEM stands for Original Equipment Manufacturing, ODM – Original Design Manufacturing, and OBM – Original Brand Manufacturing.

[79] Hong Kong Trade Development Council (2008) Study on OEM, ODM and OBM: Extending the Supply Chain with Added Value, accessed in October 2014: http://economists-pick-research.hktdc.com/business-news/article/Economic-Forum/Study-on-OEM-ODM-and-OBM-Extending-the-Supply-Chain-with-Added-Value/ef/en/1/1X000000/1X0040U6.htm

[80] WIPO Statistics for year 2012, retrieved in September 2014: http://www.wipo.int/ipstats/en

markets with help of existing technology. This behavior is further reinforced by the "non-invented-here" irony, described in previous chapters, whereby it is easier to obtain necessary administrative approvals for market adaptations than for market innovations. Despite of efforts made by CreateHK, a government agency launched to support creative industries and design capability in Hong Kong, the city appears to remain stuck in the mentality of low value-added small business activities, which is somehow reinforced by limiting the promotion of creativity to selected industries only.

Hong Kong Innovativeness. As a result, Hong Kong society has been operating within a conviction that Hong Kong was less capable of innovation than other economies. There are four principal reasons for this misconception.

First, because of the size of local market, most of patent and design applications by Hong Kong residents are filed abroad, which lowers the visibility of local innovation. In 2012 alone, only 11% of all patents by Hong Kong residents were filed locally[81].

Second, Hong Kong innovations escape our attention because many of them are constitute parts of more complex products or are commercialized under foreign licenses. Patent-wise, Hong Kong specializes in

[81] WIPO Statistics, retrieved in September 2014: http://www.wipo.int/ipstats/en

Innovative Companies of Hong Kong

VARITRONIX

Launched in 1978 by local academics, Varitronix is a world's leading LCD manufacturer with expertise in the development of advanced display technologies. The company has been supplying standard and customized products for industries including automotive, industrial, and telecommunication uses and maintains high ISO standards since 1995.

divide

Started in 2010, Divide is a HK/NYC startup that was recently acquired by Google Ventures for US$ 120 million. Their flagship mobile productivity app allows employees to split their smartphone utility in two modes: work and personal. The work mode can be controlled and monitored by a corporate IT department and personal mode allows for safeguarding the privacy of a regular smartphone.

Snaptee

Snaptee was launched in 2013 and quickly gained on popularity as a creative community-building platform that allows people to create their own one-of-a-kind fashion and apparel products with smartphones. By connecting to the photo albums people can create, buy, sell, collect, and share their favorite creations with the entire community.

PLUKKA™

Launched in 2011, Plukka is an online jewelry brand and e-commerce site that provides luxury jewelry through a made-to-order business model, which employs the reverse auction mechanisms and eliminates the traditional middlemen associated with the industry. The company has been recognized with multiple industry awards for its innovative business audiovisual technology, electrical machinery, solar energy, semiconductors, furniture, games, and consumer products[82]. In semiconductor technology, Hong Kong-based company, ASM Pacific Technology, is a world leader in semiconductor assembly and packaging equipment market[83]. Similarly, the award-winning company and international patent-holder Hot Toys, which produces high-end figurines, cosbaby figures, and toy vehicles, is the worldwide industry leader of licensed collectible toys from international movies, such as Toy Story, Monsters Inc., The Avengers, Batman, or Indiana Jones.

Third, many of the local innovations are simply taken for granted, because they became a part of local culture and are no longer noticed as out of ordinary. For example, the Octopus card, which became an inseparable part of our daily routine, could not be successfully replicated in any other large city outside of Hong Kong. Similarly, Hong Kong's toy industry has been perceived as an integral part of local reality, so we no longer pay attention to the fact that Hong Kong is one of the top 20 leading economies creating innovation in games and toys[84]. For instance, a Hong Kong-based company with foreign origins, Hanson Robotics, is a world-leader in creating interactive animatronic robots, which are capable of maintaining eye contact, recognizing

[82] Based on Relative Specialization Index (RSI) calculated with data from WIPO Statistics database for years 2004 -2012
[83] ASM Pacific Annual Report 2013, accessed in November 2014: http://www.asmpacific.com/asmpt/images/annual20140321.pdf
[84] Based on Relative Specialization Index (RSI) calculated with data from WIPO Statistics database for years 2004 -2012

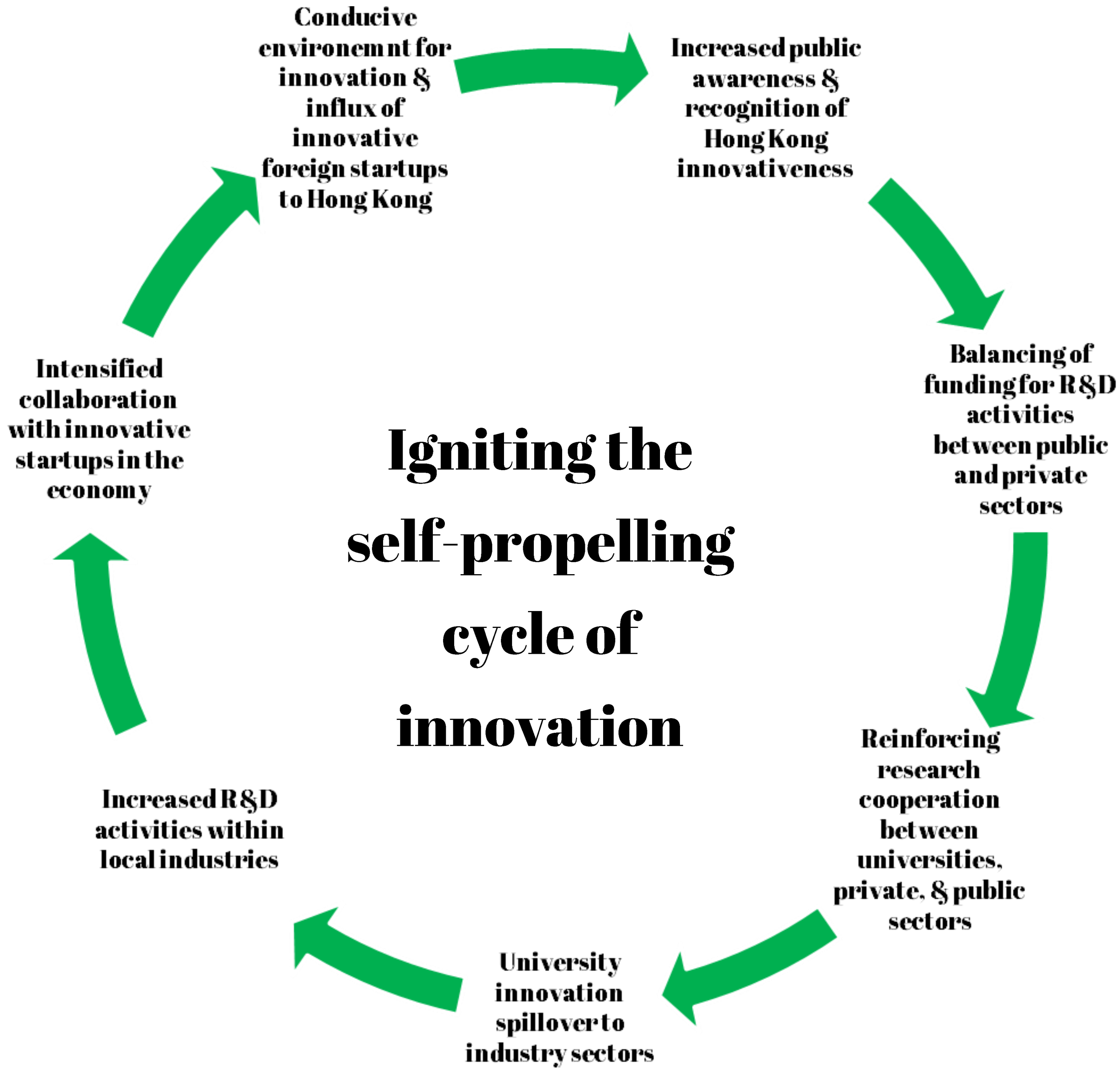


Figure 22. Igniting the self-propelling cycle of innovation

faces and understanding speech, holding conversations, and simulating a real person's personality[85].

Finally, potential entrepreneurs do not commercialize their original ideas because of their potential supporters in business as society not believing in them as being capable of delivering creative solutions to more technical problems. Patenting activity statistics reveal that in 2012 Hong Kong residents had filed 223 patent applications per million inhabitants in Hong Kong and abroad. In comparison, in the same period Singapore's citizens filed 919 patent applications and South Korea's filed for as much as 4,076 patents.

Local innovation is not well-packaged to capture public attention and inspire other, less creative industries to follow in the creative footsteps of home-grown visionaries. In consequence, local businesses and society do not benefit from local creativity that we described in earlier chapters and are reluctant to invest in research and development activities. This means the burden of fostering innovation in Hong Kong is transferred onto the public funds' shoulders and into universities. This reiterates the cycle of local non-innovation.

Fast-tracking Local Innovation. To break the negative loop and ignite the self-propelling innovation process, multiple measures need to be introduced at different stages of the cycle (Fig. 22). First, local businesses need to get more involved with creating innovative outputs. It would be unreasonable to assume that the government could increase its R&D contributions ad infinitum, but it is not unreasonable to expect the development of incentives for local businesses to increase their research and development spending. For example, an inadequate policy attention has been given to promoting innovation and collaboration among local firms in Hong Kong. Initiatives such as newly launched Technology Start-up Support Scheme for Universities (TSSSU) or recently announced Enterprise Support Scheme (ESS) are a great way of creating the R&D dialogue across different groups of stakeholders. Also, the proposed Innovation and Technology Bureau (ITB) is a big step towards unifying and reinforcing innovation-related policies of Hong Kong. To further address the innovation issue, activities of CreateHK could be extended to cater to all types of industries instead of focusing on creative ones. To foster collaboration, more matching grants such as ESS could be developed to create investment and **resource-sharing incentives** and which could not only energize local innovation but also unlock resources for local startups. Also, establishing stronger ties between the government's incubation and R&D centers, such as ASTRI or NAMI, and further development of contract and collaborative research capabilities could positively impact the inclusion of smaller and younger businesses in creating innovation in Hong Kong. Similarly, local universities are not quite engaging in dialogue with their alumni networks and only recently began to foster the multidisciplinary collaboration. Tapping into **alumni networks** and nurturing the collaborative spirit through undergraduate education could contribute to the change in mindset of local enterprises about increasing their engagement with newer industry players.

Second, more intensive **promotion of updated strategic industries** for Hong Kong could contribute to shaping and restructuring of existing small businesses[86]. Establishing of five strategic R&D centers in 2006 that build on Hong Kong's industrial heritage was an important step towards enhancing local innovativeness, however these efforts has not seen their continuation and extension in small and young business activity just yet. In consequence, Hong Kong is still relying on imitation and not innovation in most of its business endeavors. Engaging of younger generations though further opening of R&D centers to public and through promoting of cooperation with other stakeholders from the government sector, such as InvestHK or CreateHK could help modifying the local conviction of Hong Kong's non-innovativeness.

[85]http://www.hansonrobotics.com/ accessed in November 2014

[86] Research Office of Legislative Council Secretariat (2015) Four Pillars and Six Industries in Hong Kong: Review and Outlook, retrieved in February 2015: www.legco.gov.hk/research-publications/english/1415rb03-four-pillars-and-six-industries-in-hong-kong-review-and-outlook-20150209-e.pdf

Finally, increasing entrepreneurial migration through relaxing of **immigration policies** and encouraging the return of second generation emigrants could improve the innovative output of Hong Kong. Including private equity in investment requirements for capital investor visas, creating professional incentives for attracting immigrants with postgraduate degrees, and facilitating the career shift and return to Hong Kong for non-local graduates of Hong Kong universities constitute examples of changes that could improve the research and development capability of Hong Kong. Also, bridging the period between the entrepreneurship visa application and approval to allow for gestation activities could increase the number of foreign startups with time-sensitive ideas to choose Hong Kong over other entrepreneurship hubs.

Applying **simultaneous and targeted changes** at each stage of the innovation cycle would speed up the positive change and create an environment that is conducive of innovation. This, in turn, will attract more local and foreign startups to innovate in Hong Kong and reestablish public recognition of Hong Kong's creative and innovative spirit.

Key Findings on Innovation Cycles

- Local innovation has been held hostage by misadjusted research and development strategies spanning across public, private, and university sectors;
- Government is the principal sponsor of local research, small local enterprises are not putting enough emphasis on innovation, and universities carry most of the research burden in the economy;
- As a result, Hong Kong ended up in a vicious circle of "crouching" innovation, whereby innovative outputs go unnoticed in some areas and are limited in others;
- Local innovation is mostly exported and solutions that are locally implemented are often imitations from abroad, so most of Hong Kong's innovativeness goes unnoticed;
- Jail breaking from this circle through encouraging industry R&D spending, promotion of strategic industries, and facilitating entrepreneurial immigration could reverse the cycle and strengthen public recognition for Hong Kong's innovativeness.

COMMUNITY FEEDBACK

Nothing truly valuable can be achieved except by the unselfish cooperation of many individuals.

– Albert Einstein

Community Feedback

Figure 23. Expert Workshop Participants grouped by Topic Areas

Human Capital
- Tytus Michalski, Fresco Capital
- Rachel Chan, Innofoco
- David Chung, Cyberport
- Winifred Kan, Office of Miss Joey Lam, JP, Deputy Government Chief Information Officer (Policy and Community)

Social Capital
- Jayne Chan, InvestHK
- Irene Leung, Senior Citizen Home Safety Association
- Peter Dingle, nest
- Ara Manuelian, BlueGen Ltd.
- Andy Yee, Google Hong Kong

Public Acceptance
- Kevin Au, CUHK/ HKBAN
- Elaine Tsung, Garage Society
- Gene Soo, StartupsHK
- Yesha Sivan, PolyU
- Michelle Lam, Office of the Hon. Charles Mok, Legislative Councillor (IT)

Organizational Change
- Dominic Chan, Dark Horse Investment
- Derek Wong, US Consulate
- Allen Yeung, HKSTP
- Kwok Chuen Kwok, HKU
- Jason Chiu, Cherrypicks

Expert Workshop. Although findings of this report have been based on multiple interviews, surveys, observations, and case studies, our research team took an extra step to ensure the validity of our conclusions and to collect expert feedback on our recommendations. We decided to pick the brains of our community leaders once more.

In mid-December 2014 we shared our initial draft of the report with over 50 experts from the local startup support ecosystem. In our sample of experts, we included representatives from all 18 groups of stakeholders, as identified in this report. All experts have been invited to participate in a workshop that was held on January 15, 2015.

Out of all experts consulted in the process, 19 of them (or their representatives) were available to participate in the session. As much as 74% of them were previously not interviewed for this report, so they had a fresh perspective on our findings.

The workshop lasted three hours and was held in a format of an informal gathering, aiming at engaging all participants in the discussion, and at creating and harvesting positive energy to improve startup ecosystem. Our goal was to fine-tune the recommendations and to come up with workable action plans for local stakeholders to adopt.

The session was divided into three parts:

1. Brief introduction of our research findings and of the workshop agenda;

2. Work in teams on recommendations in four areas for improvement as identified in the "Wheel of Change": human capital, social capital, public acceptance, and organizational change; additionally, each team also worked on building recommendations for generating more synergies across the startup support ecosystem;
3. Open discussion to refine the report-defined and workshop-generated recommendations in the five topic areas.

We made sure that each team working on the distinctive areas for improvement had good knowledge of the topic, but also that it was not susceptible to a "group think" and was able to come up with innovative recommendations. To this end, we built the topic teams in advance and paired knowledgeable experts with professionals from related areas of expertise. Figure 23 provides a list of participating experts divided into topic teams.

Teams worked in separation from one another. To stimulate the within-team discussion, we asked our expert to first share with their teammates their individual observations on strengths and weaknesses of Hong Kong in a given topic area. Second, each expert outlined their experiences in addressing challenges related to the given area. Next, they were asked to come up with own recommendations that were later compiled and discussed within the group. Finally, we asked each team to come up with recommendations that fulfilled the following criteria of:

- Being practical;
- Being doable in short- to medium-term;
- Combining or strengthening ideas from all teammates;
- Involving more than one group of ecosystem stakeholders in its implementation.

To conclude the workshop, each topic area group has shared their experiences and consulted their own recommendations in an open discussion with other members of the panel. We did not aim at reaching an overall consensus for recommendations. Rather, our goal for the forum was to study local ecosystem's challenges from multiple perspectives, to enrich our understanding of current situation, and to come up with more insights and suggestions about how to improve startup ecosystem of Hong Kong.

Overall, the new panel of experts agreed with our findings and recommendations. A summary of additional observations from the workshop is presented in this chapter.

Human Capital. In terms of human capital development, our experts have acknowledged that Hong Kong is already creative and capable of delivering high quality, flexible, and fast-learning workforce that excels in execution and implementation. However, they also agreed that Hong Kong's talent needs to develop the appreciation for cultural diversity and long-term planning, and concentrate less on short-sighted efficiency and quick gains. According to them, revamping the immigration policy, engaging well-established businesses, and introducing the compulsory entrepreneurship education are key elements of creating change in local human capital.

In terms of immigration policies, according to our experts, Hong Kong should focus on **developing targeted immigration** incentives, which means attracting highly skilled talent capable of scaling up local and imported startups. Our experts have also recommended local startups and local support ecosystem members should engage in **closer cooperation with entrepreneurs from Mainland China**. Hong Kong can act as a gateway for Chinese startups to enter the international market and bring in Chinese talent to Hong Kong. Creating incentives for Mainland entrepreneurs to do business through Hong Kong would not only increase the locally-available pool of talent, but also create more employment opportunities for local workforce.

Also, experts advised the creation of a nurturing environment targeting specific industries that would be helpful with **attracting pre-selected, high-potential startups** and foster innovation in Hong Kong. For example, providing incentives to generate **higher engagement from large-scale**

companies, such as opening of Hong Kong-based R&D centers of foreign firms or launching of corporate-backed accelerators, would be beneficial to attracting high-potential startups. While cooperation between well-established firms and startups should be encouraged and supported by the government and its satellite organizations, it should also be monitored to a certain extent to avoid smaller and more vulnerable entities to be dominated and dispirited by more powerful partners.

Finally, **entrepreneurial education** should begin at early stages of primary school education. It should involve learning by doing, foreign exchange programs, and, at later stage, internships within startups. Also, skill development should be more **geared towards technology** learning and it should be highlighted at any stage of the education process. Finally, schools should put more emphasis on life-long learning and developing of critical thinking skills. Such education should be beneficial to **broadening students' horizons** and providing them with highly applied skills and deeper analytical capabilities.

Social Capital. Our experts agreed with our diagnosis that in order to improve local social capital for entrepreneurs, Hong Kong should build on its long-term philanthropic outlook. They have acknowledged that local family offices are very supportive of various charitable causes, such as education, health, or support for elderly. Paired with local social enterprises and in cooperation with the government, they could potentially contribute to the development of **Centers of Excellence** to leverage Hong Kong's emotional bond with its community and its commitment to improving lives of others.

Table 5. Centers of Excellence for Hong Kong

Social Catalyst – Centers of Excellence			
Why?	To increase investment in new ideas to drive an increase in funded startups		
How?	**University-based Accelerators**	**Government Support & Funding**	**Charity Mindset of Local Communities**
	❖ Unlocking the IP-generating power of university-based research ❖ Investigation of relevant case studies ❖ Development of proof points ❖ Implementation of business models ❖ Enabling of pitch/ Investment ❖ Startup pool creation	❖ Policy support for change ❖ Development of 5-year plan for reviving entrepreneurship & US$ 1 billion investment in startup ecosystem ❖ Creation of central Ministry for Entrepreneurship	❖ Established charity events ❖ Change in philanthropic mindset to embrace impact investment ❖ Development of social philanthropy ❖ Recruitment of mentors and advisors
What?	Creation of Centers of Excellence that build on Hong Kong's strengths **Manufacturing & Internet of Things** **Fin Tech** **Impact Investing**		

However, many investors continue to treat the commercial impact of startups and social impact of community contributions as two separate concepts. While they appreciate the long-term value of philanthropy, they do not recognize that entrepreneurial activities can have a similar impact on improving the general conditions of living for the local community. Our experts pointed out to the fact that the current government funding is insufficient in jump-starting serious businesses that could potentially generate the long-term social impact.

To this end, the social capital panel of experts devised 3 interrelated recommendations for creating positive change in startup ecosystem of Hong Kong:

1. Creating of Centers of Excellence that capture Hong Kong's leadership position in Fin Tech, impact investing, and Internet of Things (IOT) that would entice the government and family offices to invest in local startups;
2. Focusing on 3 building blocks of local startup excellence: university-based R&D, government support, and charity mindset;
3. Engaging of experienced professionals from local communities to help startups through mentoring and consulting.

According to the group of experts working on the topic, Hong Kong should invest in establishing Centers of Excellence, which would be developed through **collaborative support** from university-based accelerators, government policies and funds, and changing philanthropic mindset of local investors. For this to be possible, they advise the creation of a central **Ministry for Entrepreneurship** within the local government that could devise a cohesive strategic plan for developing local entrepreneurship and attracting foreign startups. Also, a substantial **government funding** is required to send a message to local investors about the government's commitment to developing local startup scene. Table 5, as drawn by our experts, explains the division of roles.

Public Acceptance. Another group of experts has evaluated the challenge of raising public awareness and acceptance towards entrepreneurship. In their opinion, the entire society should contribute to the development of innovation and entrepreneurial spirit of Hong Kong. To achieve this, building of social awareness and recognition for innovation and entrepreneurship should begin at a very young age to improve the general approval for alternative career paths and to build psychological resistance against startup risks.

In order to engage local population in recognizing the importance of developing and supporting new businesses, **two concurrent awareness campaigns** should be implemented. First one, with a **positive** outlook, should concentrate on promoting Hong Kong as an "up and coming" tech city and startup space. To this end, efforts should be made by the ecosystem participants and the government to promote and sustain several iconic local and incoming foreign companies, which could become flagship success stories for Hong Kong. Second campaign should have more **cautionary** discourse. Our experts suggested "fear factor" as an angle to show how Hong Kong will change within 10 years if it does not put more emphasis on innovation. "Innovate or Die" and "Hong Kong 2025 – the New Detroit" were suggested as possible themes for a cautionary campaign.

Connecting corporations to startups was also indicated as a way of reviving the local entrepreneurial spirit. For example, experts suggested the government could provide incentives, such as **matching funds**, to support pilot projects of well-established enterprises investing in startups locally. Also, more priority should be given to **supporting high potential** entrepreneurs and startups in order to avoid misallocation of resources in low value-adding general support programs.

Organizational Changes. While our experts agreed that Hong Kong has an efficient business environment that is strategically located in Asia and is characterized by good rule of law, simple tax system, and good infrastructure, they have also pointed out to several flaws that potentially diminish Hong Kong's capacity to maintain high entrepreneurship rates. Lack of specific policy towards encouraging entrepreneurship or innovation, out-of-date immigration policy, overshadowing focus on finance, real estate, and manufacturing industries, and limited incentives for funding local startups were enumerated as principal issues that need addressing to revive entrepreneurship in Hong Kong. To address these challenges, our experts offered four recommendations with regard to foreign talent acquisition, tax incentives, government procurement policies, and industry refocusing.

In terms of attracting more and better foreign talent geared towards entrepreneurship, Hong Kong's immigration policy needs to be relaxed and revamped. For instance, introducing **simplified procedures and trial visa quotas** for startups, which have been endorsed by designated organizations, such as HKSTP or Cyberport, could help to speed up the setting up process and attract more entrepreneurs to Hong Kong. Such solution would also create incentives to improve the quality of local private accelerator programs to be accredited within the policy. Some countries, such as Canada, Italy, or New Zealand, have recently introduced changes to their entrepreneurship visa policies. They are striving for less red tape in visa applications and are proposing more **tax and labor benefits** to incoming startups. Their efforts are still to be proven and their actual implementation processes still needs refining. However, Hong Kong's policy makers could learn from other countries' experiences with positive and negative consequences of immigration policy fine-tuning.

While taxes are often considered as non-issue in Hong Kong, according to our experts creating additional **tax incentives** to attract early-stage investment and to encourage industrial investment in research and development could be beneficial to the development of local innovation and entrepreneurship. Also, temporary relaxing of tax policies for newly-founded businesses could decrease the administrative burden of new firms. A related issue, requiring a change in Securities and Futures Ordinance, would be to relax policies and create incentives to **encourage crowd-funding practices** in Hong Kong. Currently, crowd-funding activities are limited to non-equity based investment for non-professional investors and to an investor pool of less than 50 individuals for the professional investors investing in equity-based funding rounds. In consequence, local firms looking to crowd-fund their projects are using foreign platforms, such as Kickstarter or Indiegogo, and receive little attention locally. Less stringent crowd-funding policies would be helpful in creating bottom-up appreciation for local innovation and in giving more exposure to local ventures in Hong Kong. Also, the 39.38% funding success rate statistics from Kickstarter[87] have shown that, on average, startups may stand better chance acquiring necessary funding through crowd-funding than from business angels or venture capitalists, who are mostly interested in relatively rare high-growth projects.

Our experts also suggested enhancing the top-down approach to encouraging innovation and entrepreneurship in local ecosystem. Promoting local products and services, encouraging startups to participate and including **local supplier quotas in government tenders**, or using innovativeness as assessment criterion in setting up public procurement policies, could potentially provide a necessary boost to local entrepreneurship. This could enhance local firms' motivation to innovate and could raise public awareness of government's support towards innovative and entrepreneurial activities of local population.

Finally, our experts recommended shifting the focus of Hong Kong's economy from manufacturing to **prototyping base** for development. The small but vibrant, stable, and tech-oriented economy of Hong Kong could serve as testing grounds for various software and hardware products developed worldwide. While Hong Kong market might be too small for local and foreign companies

[87] Kickstarter campaigns statistics, retrieved in January 2015: https://www.kickstarter.com/help/stats

to strive, it provides unlimited opportunities in terms of setting up research and development facilities and of fine-tuning new products based on feedback from tech-savvy local population.

Synergies in the Ecosystem. Our experts concluded that there were three essential elements to building a more efficient and synergistic environment for startups. First, the **government support** for a vibrant ecosystem should be enhanced through allocating more financial and infrastructural resources in support of highly active stakeholders and though creation of policy-backed cooperation incentives across different stakeholder groups.

Second, the government and other stakeholder groups could contribute to the strengthening of demand for local innovation in private sector by promoting and supporting the **"Invented/ Designed/ Made-in-HK" initiatives** and by assisting local high potential firms in delivering more success stories.

Third, more engagement from local well-established businesses is necessary for the ecosystem to develop and thrive. Their involvement could include launching of acceleration programs, sponsorship, mentorship support, or collaborative projects. Also, chambers of commerce, often dominated by well-established businesses, need to **focus more on growing new** than preserving old **industries**. For the moment, our young entrepreneurship support ecosystem somehow lacks coordination in its activities, where overlapping or underdeveloped activities create inefficiencies in resource allocations. Creating a **shared vision for Hong Kong entrepreneurship** would inspire commitment in non-believers and would help to better redistribute resources across the startup ecosystem.

Conclusions. Although our expert groups were working on five diverse areas of entrepreneurship influence, their inter-group recommendations converged into four key takeaways from the workshop.

First, Hong Kong needs a master plan for reviving its entrepreneurial activity and for rechanneling its creativity towards creating more value for the economy. All experts agreed that a shared vision encompassing local and imported entrepreneurial activities and supported by highly coordinated actions of the most active and influential stakeholders, such as various government bodies, are required to inspire those who are less involved.

It is time we joined forces and came up with a shared vision for Hong Kong's entrepreneurship.

Second, media and other, less active, ecosystem stakeholders' involvement is necessary to revive the entrepreneurship culture of Hong Kong. Generating interest, success storytelling, publicizing of events and of industry awards, or commissioning a series of mini-movies about local startups, are just few examples of how the general audience could get a better grasp of the importance of entrepreneurship to the future development of Hong Kong. Our experts agreed that although Hong Kong has many extraordinary entrepreneurs and innovative products, they are not marketed as well as their counterparts from other entrepreneurship hubs in the world. We do not give enough justice to our own achievements and we are too modest in comparing ourselves to the rest of the world.

It is time we took pride in our success stories and let the World know about them.

Third, more involvement from well established businesses is needed in order to foster local entrepreneurship. This would not only allow for startups to gain access to a broader range of resources, but, if managed well, would also allow for cross-fertilization of ideas, development of innovation, and revitalization or even redefinition of local key industries. As suggested by the panel of experts, it could be implemented through creating financial and tax incentives for established businesses, through encouraging foreign businesses to establish their R&D centers in Hong Kong, and through organizing "speed-dating" events between established businesses and startups to create cooperation opportunities.

It is time our commitment to giving back to community found its outlets in economic cooperation.

Finally, while it is important to encourage local talent to engage in entrepreneurial activities, we should not limit our efforts to helping people to start new businesses. Ensuring the constant influx of new businesses into the ecosystem is important, but, ultimately, it is the startups that survive and thrive that will contribute to the economic and social development of Hong Kong.

It is time we emphasized quality over quantity of startups.

Overall, our new panel of experts agreed with the assessment of the startup ecosystem and recommendations from this report. The workshop enriched our findings and provided a fresh but complementary perspective on how to improve the startup ecosystem of Hong Kong.

Recommendation Cheat Sheet

In this report we made several recommendations for improving the ecology for local startups in short- to medium-term. This section provides a summary of proposed changes, organized by six major groups of stakeholders: community, media, business/industry sector, investors, universities, and the local government. All recommendations cater directly to the 4 areas of change proposed in the "Wheel of Change" and they are designed to create positive feedback loops in public acceptance, social capital, human capital, and organization of the startup ecology. Since all elements are, to a large extent, interrelated, their effectiveness would be greater if implemented in a concerted effort.

Recommendations for the Community. Local community of entrepreneurs should focus on adopting the bottom up approach to developing entrepreneurship in Hong Kong. The leadership role in the ecosystem, which is not well-defined for the moment, should be transferred to the community of entrepreneurs. Potential actions include:

- Organizing yearly startup awards with multiple award categories: best local startups, best imported startup, best angel investor, best co-working space, best entrepreneurship promoter, etc. Such wide-scale event would not only empower the ecology to get to know each other, but would also entice media attention and help to build a wider audience for startup events;
- Establishing a community-edited online hall of fame for Hong Kong startups to promote success stories of local innovation and entrepreneurs behind it. This would potentially encourage the rejuvenation of entrepreneurship spirit and help the media to identify new stories to share with a wider audience;
- Encouraging accomplished local entrepreneurs to provide mentorship to new businesses through community-based mentorship programs hosted in physical hubs, such as co-working spaces, accelerator/incubation programs, and university programs. This would encourage knowledge transfer across generations of entrepreneurs and increase local acceptance for entrepreneurial career paths;
- Increasing the number of workshops, hackathons, and other startup-developing initiatives organized by entrepreneurship associations;
- Further developing of networking groups for early-stage entrepreneurs within co-working spaces, which would allow new entrepreneurs to receive peer support that could substitute for family and friend support in launching new businesses;
- Launching awareness campaigns to promote the social value of entrepreneurship and of impact investments;
- Enhancing the information sharing across different community-run organizations through the use of existing online knowledge portals.

Recommendations for the Media. The role of media should focus on stimulating public awareness towards a better understanding of benefits and challenges of local entrepreneurship. An increase media attention towards startups could be achieved, if:

- Local media focuses more on promoting local entrepreneurial success stories from multiple industries under the "Invented/ Designed/ Made in Hong Kong" banner. It would enhance the self-esteem of the entrepreneurs and help those entrepreneur-to-be to take the decision about starting up;
- More effort is made to promote local startups in international media. Taking the advantage of multicultural aspect of the city and leveraging international connections of the expatriate community could significantly increase international exposure of local new ventures;
- Media promotes the awareness in local population of the importance of emotional support to entrepreneurs through publicizing of dedicated workshops and events;
- Media helps with educating existing businesses through emphasizing the social and reputational value of investing in and working with startups. For example, media campaigns promoting the cross-fertilization and knowledge spillovers between startups and older small businesses could break the cooperation deadlock within certain industries;
- Media gets involved in arranging awareness campaigns that could help with overcoming prejudices and increase the understanding of potential benefits of impact investment;
- Media participates in launching two concurrent awareness campaigns, with positive and negative outlook, to display the effects of entrepreneurship and innovation in Hong Kong;
- Media gets involved in the campaign of promoting Hong Kong as a prototyping base for global product development.

Recommendations for the Business/Industry Sector. Existing local businesses should take better care in ensuring the longevity and dynamic development of their respective industries. Especially local small and family businesses should increase their involvement with local startups and take initiative in strengthening local industries by:

- Increasing their research and development spending and releasing the government from the responsibility of financing the majority of local research projects;
- Establishing collaborative projects with startups to increase innovative outputs across industries and strengthen local industries in general;
- Developing performance benchmarks of cooperation to legitimize the collaborative efforts between established businesses and startups;
- Founding a grassroots association that could provide matching between small businesses and startups;
- Increasing the involvement of chambers of commerce in developing activities for local startups;
- Investing in opening more startup incubation/ acceleration programmes in the private sector;
- Engaging in resource sharing to create stronger long-term ties between startups and service-providing existing businesses;
- Strengthening the role of mentorship and resource contributions to startups as corporate social responsibility act.

Recommendations for Investors. While the number of investors interested in supporting local startups is increasing, further mobilization is necessary to kick start local innovation and prevent high potential startups from resettling abroad. The following actions could further improve levels of investment in local startups:

- Further expanding and professionalizing of angel investments through developing guidelines, templates for investment processes, case studies, and performance benchmarks to legitimize startup support as a viable strategy for wealth creation;
- Development of professional training and qualifications for private and corporate investors, as well as for private equity investment advisors. Established business angel and venture capital associations and universities could develop training courses to support the shift;

- Further diversification of backgrounds of venture capital and private equity firms to benefit from knowledge of experienced entrepreneurs and complement the knowledge of partners with finance or accounting background;
- Creation of connection opportunities between local investors and startups. For example, organizing pitching events at co-working spaces, introducing of additional startup challenges, or developing meet-up platforms could increase startups' access to seed capital;
- Development of relationships with R&D institutes of Hong Kong to provide more opportunities for commercialization of local research outputs;
- Stimulation of growth in investments with long-term horizon and a greater focus on innovation through tax and government co-investment incentives;
- Focus on impact investment and on matching of strategic philanthropy activities of family offices with startups from industries that are directly related to philanthropic interests of the office.

Recommendations for Universities. Local universities have been increasing their involvement with the startup scene for some time now, but there is still room for improvement. The recommended actions include:

- Acquiring and assigning more resources towards training of potential entrepreneurs and fostering the entrepreneurial spirit among students. In particular, development of inter-faculty holistic programs for entrepreneurship development that encompass training, mentorship, and help with resource acquisition could potentially increase entrepreneurship rates at universities;
- Encouraging university spinoffs and university-based entrepreneurship through further expansion of incubation and acceleration programs;
- Promoting interdisciplinary cooperation through continuous emphasis on multidisciplinary approach, critical intellectual inquiry, and community engagement;
- Further expansion of startup competitions and hands-on workshops for entrepreneurs;
- Development of compulsory entrepreneurship education for all undergraduate students;
- Engaging alumni networks to promote cooperation across generations of firms, to strengthen mentorship programs, and to open new investment opportunities.

Recommendations for the Government. The government has been concentrating their efforts on improving the entrepreneurship environment for several years now. Special attention has been accorded to developing ICT sector and high tech industries. A new Bureau is about to be set up to coordinate innovation policy of Hong Kong. To further enhance public efforts in fostering entrepreneurship, the following actions could be taken into consideration:

- Refining of long-term planning for Hong Kong's strategic industries through open dialogue and collaboration with the said industries and entrepreneurs in setting objectives;
- Establishing of the Entrepreneurship Bureau or Ministry to coordinate policy towards new business development of Hong Kong;
- Development of professional training in entrepreneurship for the operational level officers to increase the understanding of startup challenges and operations. Universities could develop training courses to support the shift;
- Further diversification of backgrounds of government officers dealing with startup policies to benefit from knowledge of experienced entrepreneurs and complement the knowledge of officers with administrative and policy making background;
- Extending the efforts of CreateHK in promoting creativity and innovation to all local industries to foster value creation at all levels of the economy;
- Engaging of younger generations through further opening of R&D centers to public and promotion of cooperation with other stakeholders from the government sector, such as InvestHK or CreateHK;
- Introducing entrepreneurship-related education to the primary and secondary school curriculum to broaden students' horizons, train applicable skills, and enhance analytical thinking;
- Establishing stronger ties between the government's incubation and R&D centers to further enhance the

development of contract and collaborative research capabilities;

- Establishing of Centers of Excellence to drive innovation and coordinate efforts of supporting the new and refined strategic industries of Hong Kong;
- Introducing of local supplier quotas in government tenders and using innovativeness as assessment criterion in setting up public procurement policies;
- Redevelopment and actualization of intellectual property policy to redefine Hong Kong's role in the region and foster innovation in local businesses;
- Training and accreditation of intellectual property professionals to provide better guidance to firms seeking to apply for intellectual property rights;
- Relaxation of policies that restrict the crowd-funding investment in private equity of non-professional investors, which could potentially lead to higher investment influx from abroad and to the development of local investor pool;
- Channeling a portion of the university endowment funds and other government funds to venture capital funds to support investment in startups and including private equity investments in the allowed investment pool of pension funds. In fact, investment horizons of all these funds are similar and long-term orientated, so such arrangement would be beneficial not only for the funds, but also to the local economy;
- Opening up the Microfinance Scheme and SME Financing Guarantee Scheme to private investors and promoting of private-public capital matching to follow successful examples from US, UK, and Israel policies towards startups;
- Stimulating of corporate venture capital though tax incentives and labor benefits;
- Modifying the design of government funding schemes through redefining their principal objectives and allowing for more flexible fund administration. In particular, funding schemes should put less emphasis in the vetting process on the immediate commercialization of the project and focus more on the disruptiveness of the startup innovation;
- Revamping of the immigration policy by opening up possibilities for investment in private equity to capital investment migrants, by encouraging career transitions to entrepreneurship for current long-term holders of student or employee visas, and by introducing an operational grace period to allow for startup activities in the period between entrepreneurship visa application and approval to attract new entrepreneurship migrants. Also, setting up a panel of experts with entrepreneurship background who would evaluate business plans submitted together with visa applications could potentially accelerate and simplify the entrepreneurship visa application process.

Conclusions

Two undisputable symbols of Hong Kong, the Tiger and the Dragon, serve as parables to tell the story of the city's entrepreneurial development. Hong Kong's reputation of an Asian Tiger has a long standing and is well-deserved. Powerful and agile, it has been moving fast in the last four decades. Hong Kong's second icon, the Dragon, tells the story of the city's entrepreneurial, innovative, resilient, and cosmopolitan spirit. The new century has brought new challenges to both. The Tiger has matured and its forest has taken a new shape. The prosperous Dragon has lost some of its celebrated dynamism and has remained concealed from public consciousness. It is time new generation tigers and dragons, represented by innovative locally-focused or born global startups of Hong Kong, took their place.

The "Wheel of Change" framework, with its eight action plans, provides guidelines for accelerating this inter-generational transition. It was designed to overcome the challenges posed by the prevalent "Values of Central". It has been put together to help local stakeholders make more informed decisions and inspire closer cooperation between members of the startup ecology. It has been conceived to stimulate involvement from those participants who have not embraced the new way of seeing Hong Kong's economy just yet, who are lagging behind, and who could be inadvertently decelerating the startup ecology. Finally, this framework has been devised as our contribution to the joint effort of improving the local ecology for budding entrepreneurs from Hong Kong and abroad. Consulted with a panel of experts encompassing all stakeholder groups, it provides a guiding schema for developing a cohesive entrepreneurial vision for Hong Kong.

Hong Kong's startup support ecology has seen a tremendous growth in the past five years. Now that everybody is cheering, it seems our startups might have finally found the perfect moment to get ready for their big leap towards reshaping and redefining the traditional industries of Hong Kong. In particular, Hong Kong-raised born globals seem much more encouraged by numerous initiatives designed to energize and support local innovation as they venture onto worldwide markets from the very first day of their operations.

As members of a prosperous society, we should do everything in our power to encourage them and help them to grow even faster. Our research has shown that providing support to as little as two percent of newly registered businesses per year could potentially boost the entire economy with unprecedented strength.

It is an exciting time to live in, where one can see the rebirth of Hong Kong's Tigers and Dragons.

Methodology Overview

This study is a compilation of data from over 800 sources that can be divided in 5 principal categories. First, we have collected primary quantitative data from the participants of EYE program, young entrepreneurs aged below 35, in a two-stage survey. The first wave yielded 612 responses and in the second wave we have surveyed 335 individual entrepreneurs. Additionally, we analyzed the data from EYE Program registration, which gave us insight into the demographic profile of 902 aspiring or budding entrepreneurs. We have also performed an analysis of 148 business proposals that were submitted to the EYE Program. We have also collected additional data on 141 startups founded by EYE Program participants that were launched prior to their entering of EYE Program. These datasets were helpful in assessing the overall profile and barriers for local startups.

Second, we have gathered secondary quantitative data from University Graduate Surveys, Census and Statistics Department, Companies Registry, HK Federation of Youth Groups and Trade Development Council, Intellectual Property Department, Innovation and Technology Commission, Hong Kong Design Centre, Hong Kong Science and Technology Parks, Cyberport, Hong Kong Venture Capital and Private Equity Association, World Intellectual Property Organization, and CrunchBase international database.

Amongst others, this data helped us to define objective measures that evaluate the local startup community: their entrepreneurial preparedness, funding needs and results, and financial, innovation, and job-creation impact of local startups to Hong Kong's economy.

Third, we have also performed a secondary qualitative analysis of existing reports from World Bank, International Finance Corporation, World Economic Forum, IMD World Competitiveness Centre, Economist Intelligence Unit, and The Martin Prosperity Institute that provide a reliable cross-country comparison.

Fourth, within the primary qualitative research stream, we have conducted a series of 30 in-depth interviews with experts to assess the factors that promote or hinder entrepreneurship in Hong Kong and provide a set of recommendations for improving the local entrepreneurship outcomes. The experts were also helpful in assessing the temporal changes and tendencies in these factors as well as in comparing Hong Kong to other ecosystems they were familiar with, such as Singapore, Taiwan, or China. Additionally, we conducted 4 case studies with local startups to gain a better perspective on challenges Hong Kong entrepreneurs are facing. To deepen our understanding of the local startup ecosystem, we have visited and/or interviewed representatives of 18 co-working spaces to assess the profile of their members, types of activities targeting local startups, and their ecosystem-developing practices. To complete the picture, we have organized an expert workshop with an additional 19 experts, where we enriched our set of recommendations, and we sought feedback on the report's findings from over 50 professionals working with or for startups.

Finally, what distinguishes this report from any other available analysis is not only a comprehensive integration of findings from over 800 data sources, but also its use of social network analysis methods to assess the viability of the local entrepreneurship ecosystem. We collected the social network data through a comprehensive analysis of interviews with members of the ecosystem, online resources (i.e. websites, blogs, annual reports, newsletters, social media accounts, etc.), and media accounts to gain an in-depth perspective on community-enhancing practices of actors contributing to the development of local startups. Specifically, we looked into cooperation practices between government bodies, investors, networking communities, co-working spaces, startup accelerators and incubators, and media in their efforts of building a better environment for local entrepreneurs. We used snowball sampling method to include actors in the network, whereby actors are added based on the chain of new connections identified for the existing players in the network. Overall, we have identified interactions between 839 organizations and we have tracked down1,390 relationships that were reported for year 2014.

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