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Global Entrepreneurship Monitor 2011 Singapore report

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Global Entrepreneurship Monitor 2011 Singapore Report

NANYANG TECHNOLOGICAL UNIVERSITY

GEM

NTU Ventures

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Acknowledgements

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GEM 2011 Singapore Report Authors

A team of researchers from the Nanyang Technological University in collaboration with NTU Ventures Pte Ltd conducted the GEM Singapore survey in 2011.

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1.0 Executive Summary

Independent of the stage of economic development, entrepreneurship plays a significant role for the expansion, job creation and overall economic health within a country. As a leading international indicator of entrepreneurial activity around the world, the Global Entrepreneurship Monitor (GEM) provides valuable insight into the state of entrepreneurship within and across developed and developing economies. Knowing the entrepreneurial aspirations of country's residents is particularly relevant in Singapore's innovation-driven economy given that the country's prosperity depends largely on the economic activities of its citizens.

In this executive summary, we describe the key definitions and terms used in the GEM as well as the stages of entrepreneurship in Singapore. We then summarize the key findings for the GEM Singapore 2011 and draw comparisons to other developed countries as well as those located near Singapore.

1.1 Key Definitions

The definitions for what exactly constitutes entrepreneurship are myriad; the GEM defines entrepreneurship as *any attempt at new business or new venture creation*. This can include but is not limited to self-employment, the creation of a new business entity or the expansion of an existing business. Undoubtedly, this definition encompasses a broad scope of entrepreneurial behaviours as such GEM breaks down the entrepreneurial business cycle into several main stages. For the purposes of this report we focus on three stages which are of particular relevance.

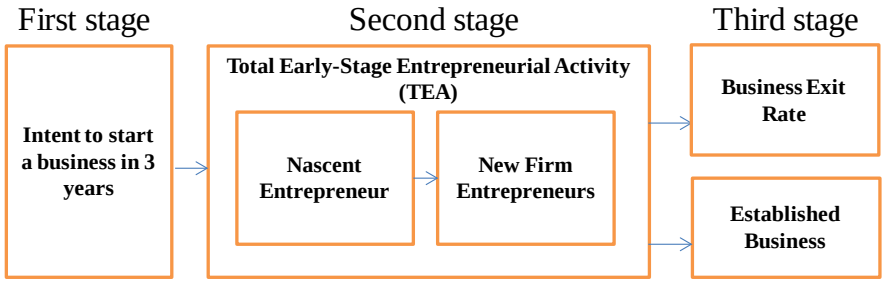
The first stage of entrepreneurship measured begins with respondent readiness to begin an entrepreneurial venture or their *intent to start a business within the next 3 years*. The second stage, which usually receives the most attention in publications utilizing GEM findings, is the

Total Early Stage Entrepreneur Activity (TEA) rate: The TEA is an indication of how many individuals in an economy are currently participating in burgeoning entrepreneurial activity. This stage of entrepreneurship is further broken down into two categories, *Nascent entrepreneurs* and *New Firm entrepreneurs.* In the third stage, early stage entrepreneurial activity eventually progresses either towards becoming an established business or towards discontinuation (business exit). See Table 1.0.1 for full description of the definitions as well as figure 1.0.1 for an illustration of the entrepreneurial stages. Note that figure 1.0.1 will be used as a graphical outline throughout the full report as a guide as to which stage of entrepreneurship is being examined.

Table 1.0.1 Entrepreneurial stage definitions

Entrepreneurial Stages and Categories	**Definition**
Intent to start a business in 3 years	Individuals not currently involved in an entrepreneurial venture, but intend to do so in the next 3 years.
Total Early-Stage Entrepreneurial Activity (TEA)	TEA is derived from a combination of the number of nascent entrepreneurs and new firm entrepreneurs. Those that qualify for both definitions are only counted once.
Nascent Entrepreneurs	Individuals actively involved in a start-up who expect to own all or part of the new firm, no wages have been paid for more than three months
New firm entrepreneurs	Individuals involved as an owner or manager in new firms, wages have been paid for between three to forty-two months.
Established Businesses	Owner or manager of an established firm, wages have been paid for more than forty-two months.
Business Exit	Individuals that have left a business that they previously managed or owned in the last year.

Figure 1.0.1 Entrepreneurial stages



1.2 GEM Singapore Research Methodology

The GEM examines these various stages of entrepreneurship via a two-pronged methodology; an Adult Population Survey (APS) and a National Expert Survey (NES). The APS utilizes phone landlines to interview a representative sample of at least 2,000 or more adults in each country. These respondents are randomly selected citizens or permanents residents of the country aged between 18 and 64 years. The APS data are used to estimate the entrepreneurial participation in the country. The APS also collects other information about the population such as their attitudes towards entrepreneurship and other related activities.

While the adult population survey captures the general attitude of the population, the NES captures a different but nevertheless vital insight into the dynamics of entrepreneurship from experts deeply involved in the entrepreneurial landscape. In each country, a minimum of 36 experts, selected for their expertise in areas relevant to entrepreneurship such as finance or government policy, are interviewed via phone, email or in-person on the state of entrepreneurship. The 2011 NES consists of both a structured questionnaire (standardized across participating countries) as well as open-ended discussions. Readers interested in detailed descriptions of APS and NES instruments may refer to Appendix B.

In total, 54 countries participated in 2011 GEM with 54 providing data for the adult population survey and 49 providing results for the national expert survey. For the APS results, we compared Singapore's results with 23 other economies (for a total of 24 economies altogether) selected from 54 participating countries. These countries were selected specifically due to their innovation-driven economies, or in some cases, their geographic and cultural similarities with the Singapore economy. Innovation-driven countries in this instance are those defined by the World Economic Forum's Global Competitiveness Report.

[World Economic Forum. (2011). The global competitiveness Report. Retrieved from http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf].

1.3 Key Findings

1.3.1 Rate of Entrepreneurship in Singapore

The 2011 total early-stage entrepreneurship (TEA) rate for Singapore was 6.6 %. While it was higher than past TEA reported rate of 4.9 % in 2006, it only placed Singapore in the 12th spot amongst 24 comparable economies. Singapore was the only country in GEM where women outnumbered men in early-stage entrepreneurship rate (7.2% for women vs. 6.0% for men). Higher rates of entrepreneurship were observed among those with higher education (diploma level or higher), which was not surprising given the level of innovation in Singaporean start-ups.

1.3.2 Intent to Start a Business and Attitudes towards Entrepreneurship

Compared to the other selected economies, Singapore ranked 5th out of the 24 comparison countries in the percentage of respondents intending to start a business (15.3%) within the next 3 years. Singapore had also one of the lowest percentages of respondents reporting that a fear of failure would prevent them from starting a business (ranked 17th lowest among 24 selected economies). The main reasons for why more Singaporeans are not engaged in the entrepreneurial activities appeared to be the perceived lack of skills and opportunities to start a new business. Not only did Singapore rank among the lowest on both of these indicators, but there was also little or no improvement from the 2006 rates.

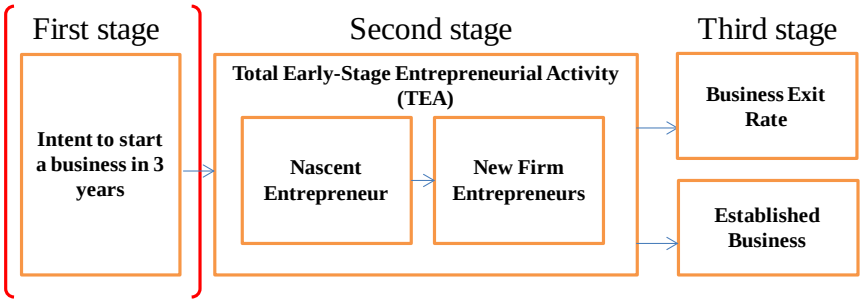
1.3.3 Nature of Start-ups

The level of innovation reported by respondents engaged in the start-ups was among the highest in the world; 46.5% of start-ups report using the latest or very recent technologies to operate their business. Singapore businesses were also among most internationalized with 13.5% reporting that more than three quarters of their customers were based overseas, and a further 21.3 % reporting between 25% and 75% foreign customers. This ranked Singapore 2nd and 3rd out of the 24 economies, respectively.

1.4 The Report

In the remainder of this report, we present in more detail some of the more salient APS results across key entrepreneurial stages. We then draw attention to several notable differences in entrepreneurial rates and attitudes between 2011 and 2006 GEM studies. Next, we discuss results of the NES, followed by the special topic of 2011 on Employee Entrepreneurial Activity (EEA). Lastly, we highlight some key implications and concluding remarks.

2.0 Intent to Start a Business



As described in the stages of entrepreneurship (see section 1.1) measured by the Global Entrepreneurship Monitor (GEM), the first step towards entrepreneurship is the readiness to venture into business creation. The GEM captures this as the percentage of the survey respondents reporting they intended to start a business within the next three years. Table 2.6.1 presents 2011 results for the 24 economies; a higher rate indicates a greater percentage of respondents that intend to start a business within the next 3 years. Overall, response rates ranged between 29.7% (Taiwan) to 6.4% (United Arab Emirates) with the average for the 24 counties being 12.3 %. Singapore was ranked 5th overall with the rate of 15.3% which was similar to those observed in the United States, Portugal, Czech Republic and Australia.

Table 2.6.1 Intent to start a business in the next 3 years

Rank	Country	Rate (%)	Rank	Country	Rate (%)
1	Taiwan	29.7	13	Sweden	10.4
2	France	19.8	14	United Kingdom	10.4
3	Korea	17.2	15	Switzerland	10.3
4	United States	15.8	16	Slovenia	10.0
5	Singapore	15.3	17	Netherlands	9.8
6	Portugal	14.9	18	Spain	9.7
7	Czech Republic	14.6	19	Denmark	8.9
8	Australia	14.5	20	Ireland	8.5
9	Greece	12.3	21	Finland	8.1
10	Belgium	12.0	22	Germany	7.6
11	Malaysia	11.3	23	Japan	7.1
12	Norway	10.9	24	United Arab Emirates	6.4
	Average	12.3			

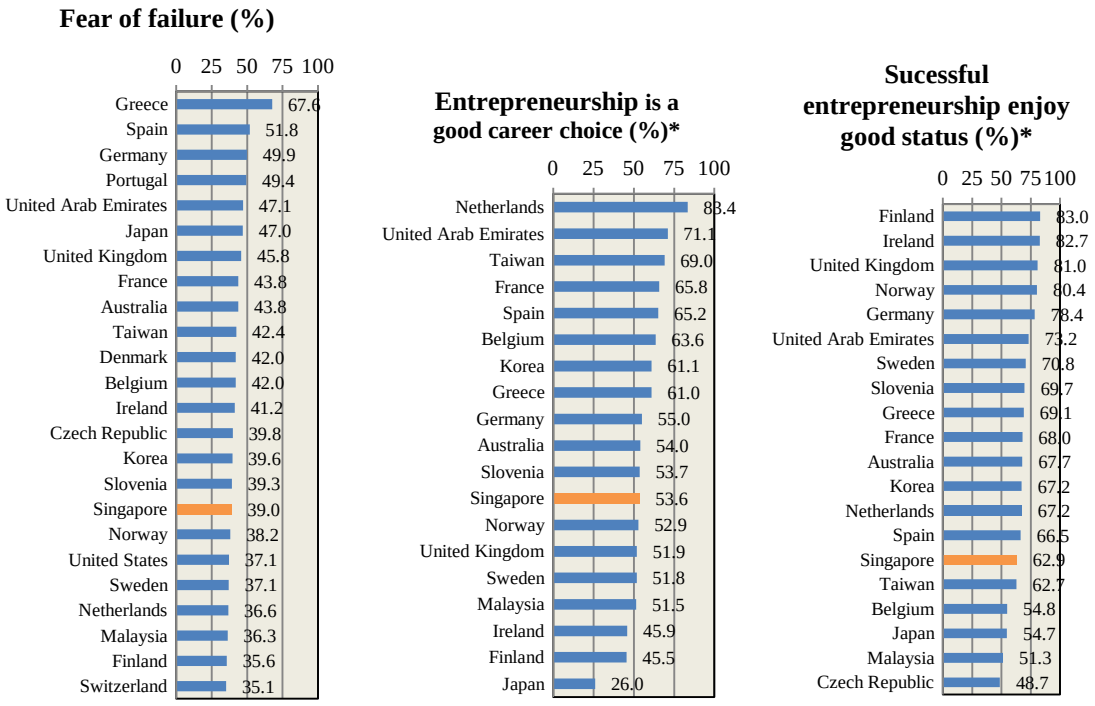
2.1 Factors Influencing Intentions to Start a Business

The GEM APS measures several attitudinal factors that may affect respondents' intent to start a business. These include *perceived* fear of failure, status of entrepreneurs in society, having skills to start a new business or seeing opportunities for new enterprises. Understanding these perceptions may provide deeper insights regarding the entrepreneurial aspirations of Singapore residents.

First, contrary to the popular belief that Singaporeans are more risk averse than those from other countries, 2011 GEM respondents scored relatively low in the fear of failure question (see Figure 2.1.1), higher scores on this question indicate a higher percentage of respondents agreeing that the fear of failure would prevent them from starting a business. Only 39.0% of Singaporean respondents indicated that a fear of failure would prevent them from starting a business. This was lower than 16 other countries (ranked 17th of 24 comparison countries) in our study and lower than the average rate of 42.8%.

More than half of respondents (53.6 %) indicated that entrepreneurship is a good career choice, 62.9 % agreed that successful entrepreneurs enjoyed a good status in the country. Although Singapore ranked 12th out of 19 and 15th out of 20 on these two indicators, respectively, compared to other countries the results indicated that Singaporean culture views entrepreneurs in a positive light and is not the major factor preventing business formation.

Figure 2.1.1 Possible factors positively influencing entrepreneurship

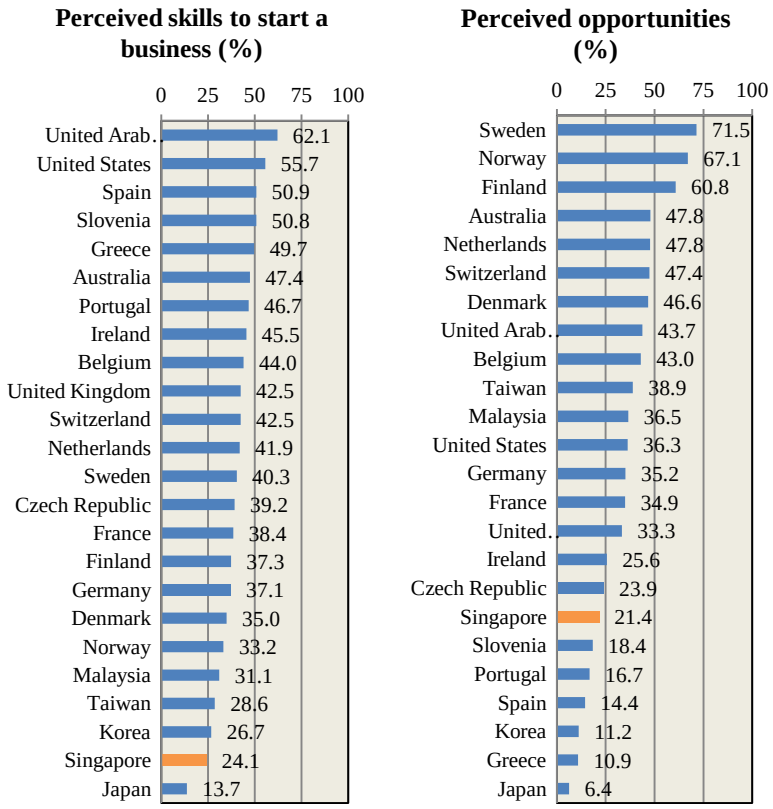


*Note: data from some of the selected countr.ies were unavailable for comparison

The two factors where Singapore appeared to be lagging behind other countries were related to entrepreneurship education. Singapore ranked 23rd out of 24 countries in terms of perceived skills to start a business (see Figure 2.1.2). Only 24.1% of respondents felt they had *the knowledge, skill and experience to start a business*, which was considerably lower than the average of 40.2%. The only other country where respondents felt they had even less skills was Japan (13.7 %).

Less than a quarter of Singapore respondents (21.4%) reported that there would be good opportunities to start a business within the next 6 months, ranking Singapore 18th out of the 24 selected economies. The countries ranked below Singapore in perceived opportunities were either those embroiled in the current European crisis (Greece, Spain and Portugal) or those having lowest rates of knowledge, skill and experience to start a business (Korea and Japan). Singapore clearly belongs to the second group of countries (see Figure 2.1.2)

Figure 2.1.2 Perceived skills and opportunities to start a business.



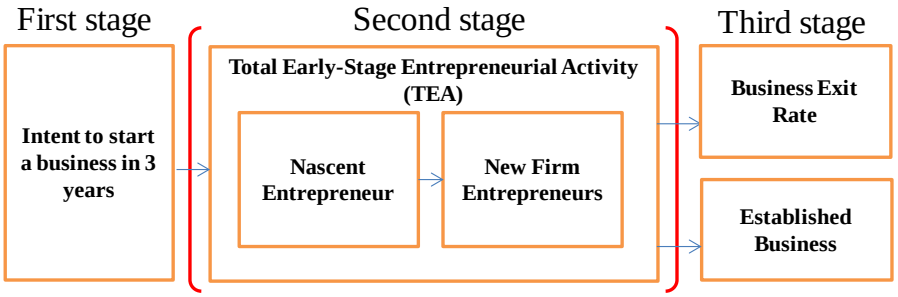
We also examined the possible relationship between perceived skills and opportunity as well as the intent to start a business. All three variables were correlated to some degree suggesting that the three variables are related (see Table 2.1.1). As such, it is possible that entrepreneurship education and training of the current work force could result in higher perceived skills and opportunity, translating to greater intent for starting a business.

Table 2.1.1 Correlation between Intent to start a business, perceived opportunity and skills

	Intent to start a business	Perceived opportunity	Perceived skills to start a business
Intent to start a business	-		
Perceived opportunity	0.20**	-	
Perceived skills to start a business	0.25**	0.28**	-

** $p < 0.01$

3.0 Total Early-Stage Entrepreneurial Activity Prevalence Rate (TEA)



The TEA rate is the sum of the nascent entrepreneurship rate (percentage of respondents actively involved in a start-up business with no wages paid for more than 3 months) and the new firm entrepreneurship rate (firms more than 3 but less than 42 months old) with individuals in both categories only counted once. Because the large proportion of new business do not typically survive for a very long, having high rates in both categories is very desirable.

Table 3.0.1 reports the TEA rates for the 24 selected economies in the GEM 2011 adult population survey. A higher score indicates that a greater percentage of respondents in that particular country are participating in either nascent entrepreneurial or new firm activities. The 2011 TEA rates ranged from 12.3% (United States) to 3.7% (Slovenia) with Singapore being ranked 12th with a TEA rate of 6.6%. In the table, for each country, we also report the GDP per capita and the resident unemployment rates for the 2011.

Table 3.0.1 TEA rate

Rank	Country	TEA Rate (%)	GDP($)*	Unemployment rate (%) **
1	United States	12.3	48,100	9.1
2	Australia	10.5	40,800	5.0
3	Netherlands	8.2	42,300	5.2
4	Greece	8.0	27,600	17.0
5	Taiwan	7.9	37,900	4.3
6	Korea	7.8	31,700	3.4
7	Czech Republic	7.6	25,900	8.5
8	Portugal	7.5	23,200	12.4
9	United Kingdom	7.3	35,900	7.9
10	Ireland	7.3	39,500	14.3
11	Norway	6.9	53,300	3.4
12	Singapore	6.6	59,900	2.0
13	Switzerland	6.6	43,400	3.1
14	Finland	6.3	38,300	7.8
15	United Arab Emirates	6.2	48,500	2.4†
16	Spain	5.8	30,600	20.8
17	Sweden	5.8	40,600	7.6
18	France	5.7	35,000	9.1
19	Belgium	5.7	37,600	7.7
20	Germany	5.6	37,900	5.7
21	Japan	5.2	34,300	4.8
22	Malaysia	4.9	15,600	3.1
23	Denmark	4.6	40,200	6.0
24	Slovenia	3.7	29,100	10.8
	Average	6.8		

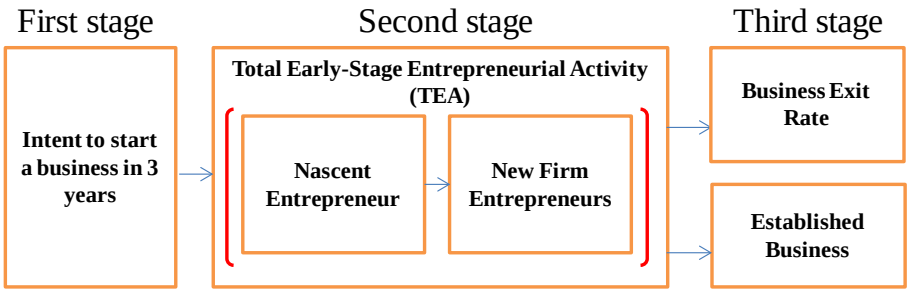
*Note: Per capita GDP purchasing power parity figures in US dollars obtained from the CIA world factbook. [Central Intelligence Agency. (2011). *The World Factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/fields/2004.html#69]

**Note: Unemployment estimates obtained from the CIA world fact book. [Central Intelligence Agency. (2011). *The World Factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/fields/2129.html#207]

†2011 data unavailable, figure based on data from 2001

TEA rates and Intent to start a business in Singaporean respondents were also found to be correlated (correlation = 0.28), suggesting that the two are related. It is possible that an increase in the intent to start a business (see section 2.1) may translate to an increase in TEA rates.

3.1 TEA: Nascent and New Firm Rates



One way to examine the TEA is via the number of nascent entrepreneurs as well as the number of new firm entrepreneurs. Nascent entrepreneurs are respondents (working age adults aged between 18 to 64 years old) in a country who have been actively engaged in a new business over the last 12 months. This activity in the GEM is defined as concrete actions taken towards the creation of a new business. For example, actions can include looking for equipment, scouting for locations or sourcing for funding. To qualify for this category individuals must also expect to be owners of this new venture. In this new venture, wages and salaries would not have been paid for more than three months.

New firm entrepreneurs are also counted in the TEA rate. These are individuals currently managing a new business as opposed to trying to start one. They must personally own all or part of the new firm which has been running for more than 3 months but less than 42 months (or 3.5 years).

Tables 3.1.1 and 3.1.2 reports the level of nascent and new firm entrepreneurs present amongst adults between the ages of 18–64 years old in Singapore as well as the countries selected for comparison. A higher score in either category indicates that there is a larger percentage of individual engaged in nascent or new firm entrepreneurship. The rate of nascent entrepreneurship in selected economies ranged from 8.3% respondents (United States) to 1.9% (Slovenia). Singapore was ranked 10th, with a nascent entrepreneur rate of 3.8%. The rate of

the new firm entrepreneurship in selected economies ranged from 5.1% respondents (Korea) to 1.6% (Denmark). Singapore was ranked 13th with the new firm entrepreneurship rate of 2.8%.

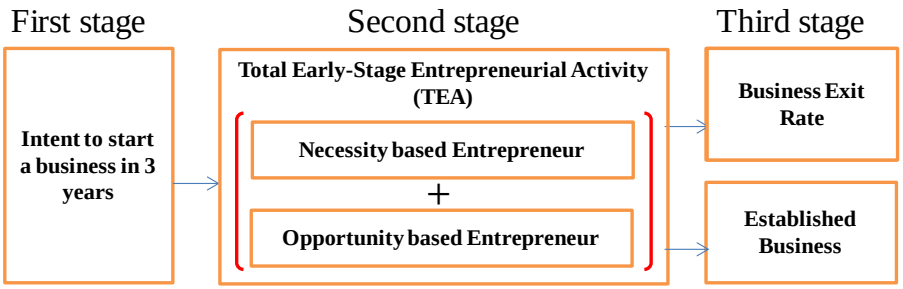
Table 3.1.1 Nascent entrepreneurship rates

Rank	Country	Rate (%)	Rank	Country	Rate (%)
1	United States	8.3	13	United Arab Emirates	3.7
2	Australia	6.0	14	Taiwan	3.6
3	Czech Republic	5.1	15	Sweden	3.5
4	United Kingdom	4.7	16	Germany	3.4
5	Portugal	4.6	17	Spain	3.3
6	Greece	4.4	18	Japan	3.3
7	Netherlands	4.3	19	Denmark	3.1
8	Ireland	4.3	20	Finland	3.0
9	France	4.1	21	Korea	2.9
10	Singapore	3.8	22	Belgium	2.7
11	Norway	3.8	23	Malaysia	2.5
12	Switzerland	3.7	24	Slovenia	1.9
	Average	3.9			

Table 3.1.2 New firm entrepreneurship rates

Rank	Country	Rate (%)	Rank	Country	Rate (%)
1	Korea	5.1	13	Singapore	2.8
2	Australia	4.7	14	Czech Republic	2.7
3	Taiwan	4.4	15	United Arab Emirates	2.6
4	United States	4.3	16	United Kingdom	2.6
5	Netherlands	4.1	17	Spain	2.5
6	Greece	3.7	18	Malaysia	2.5
7	Norway	3.4	19	Germany	2.4
8	Finland	3.3	20	Sweden	2.3
9	Ireland	3.1	21	Japan	2.0
10	Portugal	3.0	22	Slovenia	1.8
11	Belgium	3.0	23	France	1.7
12	Switzerland	2.9	24	Denmark	1.6
	Average	3.0			

3.2 TEA: Necessity and Opportunity Driven Entrepreneurship



Another way to analyse the TEA rate is based on the motivation to start a business. GEM highlights two possible motivations for an individual to begin an entrepreneurial venture: (1) the *necessity-driven* entrepreneurship which emerges due to a dearth of available work and employment options, such that entrepreneurship is motivated by the need for a source of income, and (2) the *opportunity-driven* entrepreneurship which emerges when, despite other available employment options, the individual recognizes an opportunity and chooses to exploit it.

Table 3.2.1 presents the necessity and opportunity TEA rates among adults aged 18–64 in the 24 selected economies. Higher scores in the respective columns indicate higher percentages of the total respondents who were engaged in necessity or opportunity-driven entrepreneurship in both nascent and new firms.

TEA necessity rates ranged from 3.2% (Korea) to 0.3% (Norway). Singapore is ranked 13th, with a TEA necessity of 1.1%, lower than the average amongst the selected countries (1.2%). TEA opportunity rates ranged from 9.1% (United States) to 3.0% (Slovenia). Singapore was ranked 11th, with the TEA opportunity rate of 5.4%. The relative dominance of opportunity-driven motivations in Singapore was not surprising given the low unemployment rate, high GDP per capita, and the highly developed infrastructure. In most developed economies, the majority of new businesses were opportunity-driven.

Table 3.2.1 Necessity and opportunity driven entrepreneurship

Main motivation behind entrepreneurship

TEA Necessity			TEA Opportunity		
Rank	Country	Rate (%)	Rank	Country	Rate (%)
1	Korea	3.2	1	United States	9.1
2	United States	2.6	2	Australia	8.8
3	Ireland	2.1	3	Netherlands	7.0
4	Czech Republic	2.1	4	Taiwan	6.5
5	Greece	2.0	5	Norway	6.0
6	Australia	1.6	6	Portugal	6.0
7	Spain	1.5	7	Greece	5.9
8	Taiwan	1.4	8	United Kingdom	5.8
9	Portugal	1.3	9	Switzerland	5.5
10	Japan	1.3	10	Czech Republic	5.4
11	United Kingdom	1.3	11	Singapore	5.4
12	Finland	1.1	12	United Arab Emirates	5.1
13	Singapore	1.1	13	Sweden	5.1
14	Germany	1.0	14	Ireland	4.9
15	United Arab Emirates	0.9	15	France	4.8
16	France	0.9	16	Belgium	4.8
17	Netherlands	0.8	17	Korea	4.4
18	Switzerland	0.8	18	Finland	4.3
19	Belgium	0.6	19	Denmark	4.3
20	Malaysia	0.5	20	Malaysia	4.2
21	Slovenia	0.4	21	Spain	4.2
22	Sweden	0.4	22	Germany	4.2
23	Denmark	0.3	23	Japan	3.9
24	Norway	0.3	24	Slovenia	3.0
	Average	1.2		Average	5.3

3.3 Characteristics of Early-Stage Businesses

3.3.1 Industry Sector

Table 3.3.1 provides a breakdown by percentage the industry sector participation for Singapore compared to the average of other innovation-driven economies in the 2011 GEM APS. These industry sectors are classified under four groups, (1) extractive sector, e.g., agriculture, forestry, fishing and mining; (2) transformative services, e.g., construction, manufacturing, transportation, communication, utilities and wholesale; (3) business services, e.g., finance, insurance, real estate and other business services; and, (4) consumer services, e.g., retail, motor vehicles, lodging, restaurants, personal services, health, education, social services and recreational services.

Table 3.3.1 Industry sector of early-stage entrepreneurial activity (Singapore)

		Sector Extractive (%)	**Transformative (%)**	**Business services (%)**	**Consumer services (%)**
Economies	Singapore	0	14	18	68
	Innovation-driven economies	4	22	28	45

As expected, given Singapore's limited natural resources, there were no ventures in the extractive sector. Most of Singapore's early stage businesses surveyed in 2011 were ventures within the consumer orientated services sector (68%)—the highest of all the innovation-driven economies surveyed. Further, with most early stage entrepreneurial activities concentrated in the consumer services sector, the highest of all the innovation-driven economies surveyed (68% vs. 45%) and second highest amongst all of the countries compared with (1st Malaysia, 73%)—public policy or government programs directed at newly formed businesses should take this into consideration.

3.3.2 Innovation

Another important characteristic of early stage businesses is the level of innovation used to offer the services and products offered to customers. To gauge this, the 2011 GEM APS asked respondents to indicate what level of technological innovation was currently used by their start-up: 1) Latest technology, i.e., technology that has been available only within the last year; 2) New technology, i.e., technology that has been available in the last one to five years; and, 3) No new technology, i.e., technology has been available for more than the last five years. While the technologies used are likely to differ across industries and countries, the overall rate of technology utilization could serve as a reasonable proxy measure of technopreneurship and innovation in that country's market.

Table 3.3.2 presents the level of technological innovation reported by early-stage businesses in the 24 countries. Compared to other economies, a large percent of early-stage businesses in Singapore reported to employ the latest or new technology in their services or products. Singapore was ranked 2nd (23.8%) and 6th (22.7%), respectively. This was considerably higher than the corresponding averages of 11.2% and 20.6%.

Table 3.3.2 Level of technological innovation

Latest Technology: Only available last year			New technology: Available in the last 1–5 years			No New Technology		
Rank	Country	Rate (%)	Rank	Country	Rate (%)	Rank	Country	Rate (%)
1	United Arab Emirates	28.9	1	France	29.8	1	Sweden	81.3
2	Singapore	23.8	2	Czech Republic	29.2	2	Germany	79.3
3	Malaysia	21.0	3	Australia	25.6	3	Switzerland	79.2
4	Czech Republic	17.8	4	United Arab Emirates	25.1	4	Korea	79.1
5	Greece	17.1	5	Greece	24.2	5	Denmark	76.3
6	Belgium	15.2	6	Singapore	22.7	6	Taiwan	76.1
7	Spain	14.8	7	United Kingdom	22.6	7	Norway	74.1
8	Portugal	11.2	8	Ireland	22.5	8	Japan	72.8
9	Netherlands	10.8	9	Portugal	22.3	9	Slovenia	71.8
10	France	10.3	10	Slovenia	21.7	10	United Kingdom	71.6
11	Finland	10.2	11	United States	21.2	11	Ireland	71.3
12	Taiwan	10.1	12	Finland	20.9	12	Netherlands	70.5
13	United States	9.0	13	Belgium	20.4	13	United States	69.9
14	Japan	8.7	14	Malaysia	20.0	14	Finland	68.9
15	Norway	8.6	15	Netherlands	18.7	15	Australia	68.0
16	Denmark	8.0	16	Spain	18.7	16	Spain	66.6
17	Slovenia	6.5	17	Japan	18.6	17	Portugal	66.5
18	Germany	6.5	18	Korea	18.2	18	Belgium	64.4
19	Australia	6.4	19	Switzerland	18.0	19	France	59.9
20	Ireland	6.3	20	Norway	17.3	20	Malaysia	59.0
21	Sweden	5.9	21	Denmark	15.8	21	Greece	58.7
22	United Kingdom	5.8	22	Germany	14.2	22	Singapore	53.5
23	Switzerland	2.8	23	Taiwan	13.8	23	Czech Republic	53.1
24	Korea	2.6	24	Sweden	12.8	24	United Arab Emirates	46.0
	Average	11.2		Average	20.6		Average	68.2

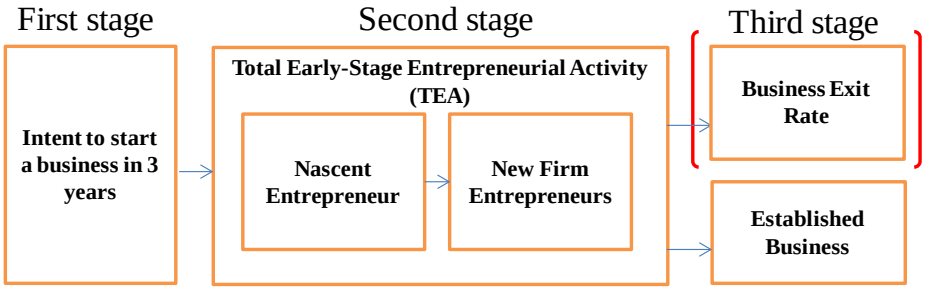
3.3.3 Internationalization

Internationalization of early-stage businesses is measured in GEM APS by the degree to which the service or product to be delivered by the company is reported to be sold to foreign consumers. From Table 3.3.3, 13.5% of Singapore based early-stage businesses have 75% to 100% of its customers based overseas which is higher than the average for selected economies (7.5%). Similarly, 21.3% of early stage businesses in Singapore have 25% to 75% of their customers based overseas, ranking it 2nd in the 25% to 75% and 3rd in the 75% to 100% categories. These findings were expected given the limited size of the local Singapore market.

Table 3.3.3 Internationalization of early-stage entrepreneurial activity

Level of internationalization								
Foreign customers: Less than 25%			**Foreign customers: 25% to 75%**			**Foreign customers: More than 75% to 100%**		
Rank	Country	Rate (%)	Rank	Country	Rate (%)	Rank	Country	Rate (%)
1	Malaysia	94.9	1	United Arab Emirates	23.7	1	Belgium	15.7
2	Spain	92.7	2	Singapore	21.3	2	United Arab Emirates	13.6
3	Japan	89.1	3	Belgium	21.0	3	Singapore	13.5
4	Finland	87.6	4	Switzerland	20.0	4	Denmark	11.7
5	Taiwan	87.4	5	United Kingdom	15.5	5	Portugal	11.2
6	Netherlands	86.7	6	Germany	14.6	6	United Kingdom	10.6
7	United States	86.6	7	Slovenia	14.5	7	Ireland	10.5
8	Norway	86.4	8	Ireland	13.4	8	Czech Republic	8.5
9	Australia	85.0	9	Czech Republic	11.4	9	Korea	8.0
10	Sweden	84.7	10	Korea	10.4	10	Slovenia	8.0
11	France	84.3	11	Sweden	10.0	11	Australia	7.2
12	Greece	84.0	12	Denmark	9.6	12	France	6.8
13	Korea	81.6	13	Greece	9.6	13	Greece	6.5
14	Germany	81.1	14	Japan	9.2	14	Netherlands	6.0
15	Portugal	80.2	15	France	8.9	15	Taiwan	5.9
16	Czech Republic	80.1	16	Portugal	8.6	16	Sweden	5.3
17	Denmark	78.8	17	United States	8.4	17	Norway	5.3
18	Slovenia	77.5	18	Norway	8.3	18	Switzerland	5.3
19	Ireland	76.1	19	Finland	7.9	19	United States	5.0
20	Switzerland	74.7	20	Australia	7.9	20	Finland	4.5
21	United Kingdom	74.0	21	Netherlands	7.3	21	Germany	4.3
22	Singapore	65.2	22	Taiwan	6.7	22	Spain	3.7
23	Belgium	63.3	23	Malaysia	4.0	23	Japan	1.7
24	United Arab Emirates	62.8	24	Spain	3.6	24	Malaysia	1.1
	Average	11.2		Average	20.6		Average	68.2

4.0 Entrepreneurial Exit Rate



The entrepreneurial exit rate can be a rather complicated variable to examine. An entrepreneur may leave the business he or she had created but the business may still survive (e.g., the entrepreneur could have sold his share in the company and moved onto another venture). Alternatively, an entrepreneur may exit the business due to the failure of the venture, a true entrepreneurial exit. We discuss these nuances in the succeeding paragraphs.

Table 4.0.1 shows the *total exit rate*, the total percentage of individuals surveyed that left a business in which they previously managed or owned in the last year. Of this, the *business failure rate* is the portion of the individuals surveyed that left the business, with the business discontinuing after their departure (failing). As can be seen from the table, the early-stage business discontinuance rate in Singapore was 2.1% which was slightly lower than the average discontinuance rate (2.7%).

The most common reasons cited for leaving the business venture was the lack of profitability (32.5%), with 2nd and 3rd most common reasons being retirement (17.5%) and opportunity to sell the business (12.5%). Other reasons cited included problems getting finance (10.0%), another job or business opportunity (7.5%), a planned exit out of the business (5.0%) and personal (5.0%).

Table 4.0.1 Entrepreneurial exit rate

Rank (Total exit rate)	Country	Total exit rate (%)	Business did not continue (%)	Business did continue (%)
1	Taiwan	4.9	2.0	2.8
2	United Arab Emirates	4.8	2.2	2.6
3	United States	4.4	2.9	1.5
4	Australia	4.3	2.7	1.7
5	Ireland	3.4	2.8	0.6
6	Korea	3.2	2.4	0.7
7	Sweden	3.2	2.5	0.7
8	Greece	3.0	2.4	0.5
9	Switzerland	2.9	1.6	1.3
10	Portugal	2.9	1.8	1.1
11	Czech Republic	2.7	1.9	0.8
12	Malaysia	2.6	2.1	0.5
13	Norway	2.5	1.4	1.2
14	Denmark	2.3	1.5	0.8
15	France	2.2	1.6	0.7
16	Spain	2.2	1.5	0.7
17	Singapore	2.1	1.5	0.7
18	United Kingdom	2.0	1.5	0.5
19	Netherlands	2.0	1.4	0.6
20	Finland	2.0	1.2	0.7
21	Germany	1.8	1.3	0.5
22	Slovenia	1.5	1.0	0.4
23	Belgium	1.4	0.4	1.0
24	Japan	0.7	0.6	0.1
	Average	2.7	1.8	0.9

5.0 Comparison between 2011 and 2006 GEM studies

The last time Singapore participated in GEM was in 2006. In the ensuing 5 years, Singapore's social and economic landscapes have been affected by many local and world events including the 2008 economic crisis. The absence of the GEM data for Singapore during this period had translated into a considerable loss of resolution in our ability to capture the entrepreneurial climate changes. It is with this important caveat that we report the comparison across the main GEM indicators between 2006 and 2011:

1. An increase in TEA from 4.9% (2006) to 6.6% (2011) was observed. The TEA rate had increased for both subcategories of opportunity and necessity driven entrepreneurship. Opportunity-driven entrepreneurship rates increased from 4.10% to 5.39% (a 1.29% difference), whereas necessity-driven entrepreneurship increased from 0.65% to 1.07% (a 0.42% difference).
2. An increase in respondents' perceptions that there are good opportunities to start a business, from 15.7% (2006) to 21.4% (2011) was observed.
3. A slight decrease in perceptions of entrepreneurial knowledge, skills, and experience from 25.4% (2006) to 24.1% (2011) was observed.

For purposes of comparison Table 5.1 provides the rates of these three variables from the last 5 data points.

Table 5.1 Past 5 data points for TEA, perceived opportunities and perceived skills

Variable	2002	2003	2004	2005	2006	2011
Total early-stage entrepreneurship activity (%)	5.9	5.0	5.7	7.2	4.9	6.6
Perceived good opportunities to start a business in the next 6 months (%)	16.6	19.9	16.3	17.5	15.7	21.4
Perceived skills to start a business (%)	26.6	33.2	26.1	29.0	25.4	24.1

6.0 National Expert Survey Results

The national expert survey (NES) offers a different insight into the dynamics of the entrepreneurial scene in Singapore. The experts interviewed were at top of their respect fields, including chief executive officers, directors of government agencies, professors and successful entrepreneurs, coming from a diverse range of institutions, industries and government organizations such as venture capital firms, banks, lawyer firms and incubation firms. The expertise and experiences of these selected experts with the policies and programs that affect entrepreneurs adequately complement the findings of the APS which by design examines the whole adult work population. Specifically, the NES examines nine factors or framework conditions that are believed to facilitate entrepreneurship within a given country. These are presented in Table 6.0.1. Readers interested in the full list of the questions of the NES may refer to appendix B.

Table 6.0.1 Framework conditions

Framework conditions	Entrepreneurship factor
Financial Support	Examines the level of funding available to nascent and new firms.
Government Policies	Examines the level of support governmental policies provide nascent and new firms.
Government Programmes	Examines the level of support governmental programs provide nascent and new firms.
Education and Training	Examines the level of entrepreneurial education and training institutes of learning provide in the nation.
Research and Development Transfer	Examines the ease at which new technological, science and other knowledge advancements can be accessed and translated to new business ventures.
Commercial and Professional Infrastructure	Examines the availability, affordability and accessibility of commercial and professional services for early-stage entrepreneurship.
Market Openness	Examines how open the local markets are to a new goods and services as well as level to which established businesses (via existing policy and otherwise) are able to limit competition from new businesses.
Access to Physical Infrastructure	Examines the access and quality new firms have to the existing physical infrastructure within a country.
Cultural and Social Norms	Examines the socio-cultural factors within a country.

6.1 Overall Scores for all Nine Framework Conditions

Table 6.1.1 provides the summary of NES overall scores for each of the nine framework conditions. From the total of 49 countries that participated in the NES, the expert ratings for Singapore are compared to the average from the 20 countries which were innovation-driven or, in some cases, their geographic and cultural similarities with the Singapore economy. We also identified countries with the lowest and highest NES scores. For a list of the countries that Singapore was compared with please see appendix C. For the list of the national experts interviewed please see appendix D.

The rating scale used in the NES was a 5-point scale with "1" representing "Completely False" response, "2" representing "Somewhat False" response, "3" representing "Neither True nor False" response, "4" representing "Somewhat True" response, and "5" representing "Completely True" response. The higher a score above 3.0, the more experts generally rated a particular statement towards being "true"; while an average expert score below 3.0 would mean experts generally rated a particular statement towards the direction of being "false".

As can be seen in Table 6.1.1., Singapore was ranked quite highly in all framework conditions among 20 comparison countries. Specifically, Singapore was ranked 1st in the areas of Government Policies and Access to Physical Infrastructure, 2nd in Government Programs and 3rd in Research and Development Transfer. Across the 9 framework conditions, the lowest overall scores for Singapore were observed for Education and Training, Research and Development Transfer, and Market Openness, while the highest scores were observed for Access to Physical Infrastructure and Government Policies.

Table 6.1.1 Overall results for nine framework conditions

Framework conditions*	**Singapore (average)**	**Rank**	**Average for selected economies (NES)**	**Selected economies (Highest)**	**Selected economies (Lowest)**
Financial Support	3.1	4	2.7	3.4 (Switzerland)	1.9 (Greece)
Government Policies	4.0	1	2.8	4.0 (Singapore)	1.9 (Greece)
Government Programmes	3.5	2	2.9	3.6 (Germany)	2.0 (Greece)
Education and Training	2.8	4	2.5	3.1(Netherlands)	2.0 (Spain)
Research and Development Transfer	2.9	3	2.6	3.4 (Switzerland)	2.0 (Slovenia)
Commercial and Professional Infrastructure	3.3	6	3.2	3.9 (Switzerland)	2.2 (Korea)
Market Openness	3.0	5	2.8	3.5 (Taiwan)	2.4 (Spain)
Access to Physical Infrastructure	4.7	1	4.0	4.7 (Singapore)	3.5 (Greece)
Cultural and Social Norms	3.2	5	2.8	3.7 (Taiwan)	1.9 (Portugal)

* Note that for the NES, data from four innovation-driven countries (Belgium, Denmark, Japan and the United States) were not available for comparison.

6.2 Financial Support

This framework condition examines the level of funding available to nascent and new firms. Sources of funding may include equity, debt funding, angel investors, venture capitalists and IPOs. Singapore ranked higher than the average for selected economies across all categories of available funding for early-stage entrepreneurship. For the level of funding for new businesses made available by the government, Singapore ranked first.

Table 6.2.1 Framework condition: Financial support

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, there is sufficient equity funding available for new and growing firms	3.4	4	2.7	3.6	2.0
In my country, there is sufficient debt funding available for new and growing firms	2.8	8	2.6	3.5	1.6
In my country, there are sufficient government subsidies available for new and growing firms	4.0	1	3.0	4.0	2.1
In my country, there is sufficient funding available from private individuals (other than founders) for new and growing firms	2.8	6	2.6	3.8	1.8
In my country, there is sufficient venture capitalist funding available for new and growing firms)	3.0	4	2.6	3.5	1.7
In my country, there is sufficient funding available through initial public offerings (IPOs) for new and growing firms	2.6	8	2.4	3.9	1.6

6.3 Government Policies

This framework condition examines the level of support governmental policies provide nascent and new firms. Examples of governmental policy include business-friendly bureaucracy, taxes and priority of nascent and new firms when setting national policy.

Not surprisingly, Singapore was ranked higher than the average for selected economies across all factors examined for government policy. There were several areas of government policy that were rated highly by local experts: the level of priority of new businesses in governmental policies; expediency with government bureaucracy such as issues of license. Notably, Singapore scored considerably higher than the average on 6 out of 7 questions in this framework (See Table 6.3.1).

Table 6.3.1 Framework condition: Government Policies

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, Government policies (e g , public procurement) consistently favour new firms	2.6	4	2.2	3.2	1.5
In my country, the support for new and growing firms is a high priority for policy at the national government level	3.8	1	2.9	3.8	1.9
In my country, the support for new and growing firms is a high priority for policy at the local government level	3.8	2	2.9	3.9	1.6
In my country, new firms can get most of the required permits and licenses in about a week	4.0	1	2.4	4.0	1.6
In my country, the amount of taxes is NOT a burden for new and growing firms	4.2	1	2.9	4.2	1.8
In my country, taxes and other government regulations are applied to new and growing firms in a predictable and consistent way	4.4	1	3.0	4.4	1.5
In my country, coping with government bureaucracy, regulations, and licensing requirements it is not unduly difficult for new and growing firms	3.6	1	2.6	3.6	1.5

6.4 Government Programmes

This framework condition examines the level of support governmental programs provide nascent and new firms. Examples of factors examined include the number government programs, the level of competence from these programs and the efficacy of programs helping early-stage entrepreneurship.

Similar to Government Policies, Singapore ranked higher than the average for selected economies across all categories of Government Programmes. There are several areas of government programs that were rated highly by local experts including the number and range of government-initiated services as well as the competence of people working for government agencies (see Table 6.4.1).

Table 6.4.1 Framework condition: Government programmes

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, a wide range of government assistance for new and growing firms can be obtained through contact with a single agency	3.5	1	2.6	3.5	1.7
In my country, science parks and business incubators provide effective support for new and growing firms	3.4	8	3.3	4.0	2.0
In my country, there are an adequate number of government programs for new and growing businesses	3.8	2	3.1	3.9	2.1
In my country, the people working for government agencies are competent and effective in supporting new and growing firms	3.4	2	2.8	3.5	1.9
In my country, almost anyone who needs help from a government program for a new or growing business can find what they need	3.4	3	2.7	3.5	1.8
In my country, Government programs aimed at supporting new and growing firms are effective	3.3	4	2.7	3.5	1.9

6.5 Education and Training

This framework condition examines the level of entrepreneurial education and training that public and private institutes of learning provide in the nation. Although Singapore appeared to be ranked higher than the average for other countries, the scores for this and other countries with regard to Education and Training were quite low. In fact, four out of six scores for Singapore were at or below 3.0 and the other two scores were not much higher than 3.0. Clearly, much more has to be done to encourage entrepreneurial education in the country.

Table 6.5.1 Framework condition: Education and Training

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, teaching in primary and secondary education encourages creativity, self-sufficiency, and personal initiative	2.8	6	2.4	3.1	1.6
In my country, teaching in primary and secondary education provides adequate instruction in market economic principles	2.5	4	2.2	2.9	1.5
In my country, teaching in primary and secondary education provides adequate attention to entrepreneurship and new firm creation	2.2	6	2.0	2.7	1.4
In my country, colleges and universities provide good and adequate preparation for starting up and growing new firms	3.0	4	2.6	3.2	2.0
In my country, the level of business and management education provide good and adequate preparation for starting up and growing new firms	3.3	7	3.0	3.5	2.5
In my country, the vocational, professional, and continuing education systems provide good and adequate preparation for starting up and growing new firms	3.1	5	2.8	3.8	2.3

6.6 Research and Development Transfer

This framework condition examines the ease at which new technological, science and other knowledge advancements can be accessed and translated to new business ventures. Examples of factors examined include the affordability of these new technologies for early-stage businesses and the level of support for the commercialization of ideas from engineers and scientists. From Table 6.6.1, Singapore ranked either on-par or above the average among 20 innovation-driven countries that participated in the 2011 NES. However, similarly to Education and Training framework, scores for several questions were below 3.0 indicating that more experts rated these questions as "false." Clearly, more may need to be done to facilitate the effective transfer of knowledge and access to technology in Singapore.

Table 6.6.1 Framework condition: Research and development transfer

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, new technology, science, and other knowledge are efficiently transferred from universities and public research centres to new and growing firms	2.5	7	2.5	3.6	1.8
In my country, new and growing firms have just as much access to new research and technology as large, established firms	2.7	4	2.4	3.3	1.9
In my country, new and growing firms can afford the latest technology	2.4	5	2.2	3.2	1.6
In my country, there are adequate government subsidies for new and growing firms to acquire new technology	3.1	3	2.5	3.1	1.7
In my country, the science and technology base efficiently supports the creation of world-class new technology-based ventures in at least one area	3.5	4	3.1	4.2	1.9
In my country, there is good support available for engineers and scientists to have their ideas commercialized through new and growing firms	3.2	3	2.7	3.7	1.8

6.7 Commercial and Professional Infrastructure

This framework condition examines the availability, affordability and accessibility of commercial and professional services for early-stage entrepreneurship. Examples of factors examined include the sufficiency and cost of subcontractors, suppliers and consultants.

From Table 6.7.1, Singapore's expert rating scores for this framework placed the country in the middle of the distribution. In particular, the number of available subcontractors, suppliers and consultants, the ease of getting quality support services as well as the access to good professional legal and accounting services were ranked 12th, 10th, and 9th respectively.

Table 6.7.1 Framework condition: Commercial and professional infrastructure

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, there are enough subcontractors, suppliers, and consultants to support new and growing firms	3.5	12	3.5	4.4	2.2
In my country, new and growing firms can afford the cost of using subcontractors, suppliers, and consultants	2.7	5	2.5	3.2	2.0
In my country, it is easy for new and growing firms to get good subcontractors, suppliers, and consultants	2.9	10	3.0	3.9	2.3
In my country, it is easy for new and growing firms to get good, professional legal and accounting services	3.6	9	3.5	4.2	2.4
In my country, it is easy for new and growing firms to get good banking services (checking accounts, foreign exchange transactions, letters of credit, and the like)	3.8	5	3.2	4.2	2.1

6.8 Market Openness

This framework condition examines how open the local markets are to a new goods and services as well as the level to which established businesses (via existing policy and otherwise) are able to limit competition from new businesses. From Table 6.8.1, Singapore's expert rating scores indicated that Singapore's market is fairly open. Singapore was ranked 5th in the ease of entry market and the lack of unfair play from established firms. The two questions where Singapore did not appear to fare well were related to consumer and business-to-business market volatility (see the first two questions in the table). On these two questions, Singapore ranked 11th and 19th, meaning that markets were stable. To some extent, market stability can be seen as negative because it may make it difficult for new business to capture a share of the market. On the other hand, market stability can prove to be a positive factor as it may allow new firms to better plan for their growth and allocate the necessary finances to perfect their products.

Table 6.8.1 Framework condition: Market openness

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, the markets for consumer goods and services change dramatically from year to year	3.0	11	3.1	4.1	2.6
In my country, the markets for business-to-business goods and services change dramatically from year to year	2.6	19	3.0	3.9	2.5
In my country, new and growing firms can easily enter new markets	3.0	5	2.7	3.3	2.1
In my country, the new and growing firms can afford the cost of market entry	2.8	6	2.5	3.2	2.0
In my country, new and growing firms can enter markets without being unfairly blocked by established firms	3.0	5	2.7	3.5	2.0
In my country, the anti-trust legislation is effective and well enforced	3.5	3	2.8	3.6	2.0

6.9 Access to Physical Infrastructure

This framework condition examines the access and quality new firms have to the existing physical infrastructure within a country. Examples of factors examined include access of physical infrastructures such as roads, and utilities as well as their cost.

From Table 6.9.1, Singapore scores were considerably higher than the average across all categories of physical infrastructure measured. In fact, Singapore ranked first on two of the five questions and second or third on the remaining questions. Clearly, the excellent access to physical infrastructure remains to be the strength of this country and the source of competitive advantage.

Table 6.9.1 Framework condition: Access to physical infrastructure

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, the physical infrastructure (roads, utilities, communications, waste disposal) provides good support for new and growing firms	4.6	2.0	3.9	4.8	3.0
In my country, it is not too expensive for a new or growing firm to get good access to communications (phone, Internet, etc)	4.7	1.0	4.0	4.7	3.3
In my country, a new or growing firm can get good access to communications (telephone, internet, etc) in about a week	4.7	1.0	4.1	4.7	3.2
In my country, new and growing firms can afford the cost of basic utilities (gas, water, electricity, sewer)	4.6	3.0	4.0	4.7	2.7
In my country, new or growing firms can get good access to utilities (gas, water, electricity, sewer) in about a month	4.7	2.0	4.2	4.9	3.5

6.10 Cultural and Social Norms

This framework condition examines the socio-cultural factors within a country. Examples of factors examined encompass a wide range of socio-cultural factors ranging from individualism, to creativity to cultural appetite for entrepreneurial risk

From Table 6.10.1, experts ranked Singapore culture as highly supportive of "individual success achieved through own personal efforts" and emphasizing "the responsibility that the individual (rather than the collective) has in managing his or her own life". This is consistent with the ideals of a meritocratic society that Singapore has adopted. Scores for the other three cultural questions were close to the average score of other countries indicating that there is a room for improvement in terms of encouraging entrepreneurial risk taking, creativity and innovativeness.

Table 6.10.1 Framework condition: Cultural and social norms

Item	Singapore (average)	Rank	Selected economies (average)	Selected economies (Maximum)	Selected economies (Minimum)
In my country, the national culture is highly supportive of individual success achieved through own personal efforts	3.8	2	3.0	3.8	2.0
In my country, the national culture emphasizes self-sufficiency, autonomy, and personal initiative	3.3	6	2.9	3.8	1.9
In my country, the national culture encourages entrepreneurial risk-taking	2.7	7	2.5	3.5	1.6
In my country, the national culture encourages creativity and innovativeness	2.8	11	2.9	3.9	2.0
In my country, the national culture emphasizes the responsibility that the individual (rather than the collective) has in managing his or her own life	3.5	3	2.9	3.6	2.1

7.0 Special Topic: Entrepreneurial Employee Activity (EEA)

For the 2011 GEM Singapore, Entrepreneurial Employee Activity (EEA) or Intrapreneurship was selected as a special topic. EEA is an interesting avenue for investigation especially in innovation-driven economies because it captures a more comprehensive view of the level of entrepreneurship within a country. The topic recognizes that entrepreneurship can occur from within an established organization. This is plausible since organizations expanding or branching out usually have better business expertise, finances and access to new technologies to support a new venture, compared to the individual. As such, entrepreneurially-minded employees may make use of this environment to explore new business avenues. An EEA rate in this instance is the number of employee respondents that over the last year were part of an entrepreneurial effort within their organization. Conducted as part of the APS, Singapore's EEA rate is compared with other innovation-driven economies or in some cases, their geographic and cultural similarities with the Singapore, for a total of 23 economies altogether. Table 8.0.1 reports the level of EEA in selected economies.

Table 7.0.1 EEA rates in selected economies

Rank	Country	Rate (%)	Rank	Country	Rate (%)
1	Sweden	13.5	13	Switzerland	3.3
2	Denmark	9.2	14	Czech Republic	3.2
3	Belgium	8.6	15	Japan	3.1
4	Finland	8.0	16	United Arab Emirates	2.7
5	Netherlands	5.6	17	Portugal	2.6
6	United States	5.3	18	Singapore	2.6
7	Australia	5.0	19	Spain	2.5
8	Ireland	4.6	20	Korea	2.4
9	United Kingdom	4.3	21	Taiwan	2.0
10	Slovenia	4.1	22	Greece	1.3
11	France	3.9	23	Malaysia	0.4
12	Germany	3.5			
	Average	4.4			

*Note that for EEA rates, data from Norway was not available for comparison.

From Table 7.0.1, the EEA rate in Singapore (2.6%) was lower than the average of the EEA rate of all 23 selected countries (4.4%, data from Norway which was not available for comparison). Higher scores in the respective columns indicate a higher percentage of the total respondents who are engaged in EEA in their current workplaces. EEA rates ranged from 13.5% (Sweden) to 0.4% (Malaysia).

To gain better insights about entrepreneurial employees of established firms, we compared their attitudes towards failure, their skills and entrepreneurial career to those of early-stage entrepreneurs (individuals that contributed to the TEA rate) and as well as employees that did not engage in any entrepreneurial activity as part of their employment (employees without EEA). More respondents with EEA perceived that there were good opportunities to start a business and that they had the knowledge, skills, and experience to start a business (see Table 7.0.2). However, compared to the early-stage entrepreneurs, these EEA employees had a much higher fear of failure (35.8 % vs. 40.5 %) and did not consider entrepreneurship as a good career choice (60.0% vs. 35.1%).

Table 7.0.2 Attitudes towards entrepreneurship and EEA individuals

Attitudes towards entrepreneurship (% of endorsement)	Sub-groups		
	Early-Stage Entrepreneurs	Entrepreneurial Employees	Employees without EEA
Fear of failure	35.8	40.5	38.9
Perceived opportunities	44.2	27.0	16.3
Perceived skills	67.5	35.1	19.9
Successful entrepreneurs enjoy good status	60.0	45.9	61.3
Entrepreneurship as a good career choice	60.8	35.1	50.1

Note: For the purposes of clarity respondents who fell into more than one sub-group (e.g., TEA and entrepreneurial employees) were removed from the analysis.

8.0 Concluding Remarks and Implications

Given the importance of entrepreneurship as a key to economic development, there remains a need for instruments such as the GEM to monitor, inform and facilitate policy making processes. As the largest survey of entrepreneurial activities around the world, the GEM fulfils this role well. The GEM consortium has been growing since its inception (ten members in 1999, forty-two in 2006 and fifty-four in 2011), indicating the importance that countries around the world place on entrepreneurship and this indicator. The well-established and globally standardized research methodology of the GEM surveys allows us not only to have confidence in our findings, but also to compare them with those from other countries. Readers are encouraged to refer to the 2011 Global Report available at: [http://www.gemconsortium.org/docs/2201/gem-2011-global-report]. The 2011 GEM Singapore survey has yielded a large number of results. In this section we focus on the five take-home messages from these findings.

First, the reasonably high level of intention for entrepreneurship and the improvement of TEA rates are encouraging signs of Singapore's burgeoning entrepreneurial scene. Given that the entrepreneurial process begins with the intention to start a business, the 15.3% (5th out of 24 countries, consisting of innovation-driven economies as well as those with a similar cultural background) is promising. However, for new ventures to emerge, this intent needs to be acted upon and converted into actual participation in entrepreneurial activities. Our findings indicate that this did not translate to similar rates for early-stage entrepreneurial activity (TEA: 6.6%).

Second, we consider several factors that may influence individuals to ultimately engage in entrepreneurship. Fear of failure did not seem to be the main reason preventing Singaporeans from starting a business, Singaporeans ranked 17th of 24 the comparison countries. Level of technology and innovation available also did not appear to be the primary reasons: around 46.5% of start-ups in Singapore use the latest technologies, ranking Singapore amongst the highest in

the world. Rather, the emerging pattern is that the perception of Singaporeans that they lack the skills and opportunities to start a business which at least partially explains the lack of translation of entrepreneurial intention into action. When asked whether they had the knowledge, skill and experience to start a business, Singaporeans ranked second last out of the 24 countries; likewise, only 21.4% of Singaporeans felt that there were good opportunities to start a business within the next 6 months, ranking Singapore 18th out of the 24.

For the perceived opportunity variable, further examination revealed that the countries ranked lower than Singapore were either those embroiled in the current European crisis (Greece, Spain and Portugal) or those equally lacking the knowledge, skill and experience to start a business (Korea and Japan). Given the relationship (correlation) between perceived skills and perceived opportunities, it is reasonable that these two factors are related in inhibiting entrepreneurship. As such, interventions such as further incorporating entrepreneurial training into the education system, in both Singaporeans about to enter the workforce (e.g., tertiary education students) as well as the existing adult workforce would be beneficial in helping those with entrepreneurial aspirations actualize their intentions.

Third, the nature of the start-up businesses within Singapore are marked by three main characteristics: 1) a majority of start-ups (68%) were from the consumer services sector, 2) a large number of start-ups were using technology that was only available within the last year (23.8%) or the last one to five years (22.7%); and 3) the portion of customers not based locally (13.5%). The nature of these start-ups may serve as a useful tool for informing future government interventions. For example, public procurement policy or providing tax incentives that encourage sourcing from these early-stage businesses. This may have other indirect positive impacts such as an increase in perceived opportunity (due to favourable well targeted policy) and, in turn, in an increase in the intent to start a business, given their positive association.

Fourth, although Singapore's TEA is not as high as other western countries, its EEA can serve to augment the entrepreneurship rate since EEA can be regarded as another source of entrepreneurial activity in Singapore. This allows organizations to capitalize on employees that might have the skill set for entrepreneurship (higher perceived entrepreneurial skills) but not necessarily the mindset (higher fear of failure and lower view of entrepreneurship as a good career) for expanding the business. Interventions encouraging EEA should not be ignored as they present viable avenues for organizations (rather than individuals) to contribute towards entrepreneurship.

Lastly, while the yearly "snapshot" of entrepreneurship within a country provided by the GEM is useful, its value lies in analysing the ever-changing entrepreneurial trends across and within countries in response to the changes in economic environment. The absence of Singapore GEM data from 2007–2010 prevents us from conducting more in-depth, longitudinal, year-by-year comparative analyses. Thus, the 2011 GEM Singapore findings should be interpreted with caution.[1]

[1] Nanyang Technological University is currently conducting the 2012 GEM survey with the hope of being able to generate relevant entrepreneurship data and subsequently provide a meaningful comparative analysis. We are also conducting research to better understand the factors that influence Singaporeans' entrepreneurial efficacy and decisions to pursue entrepreneurial careers in the context of "competing" career options like professionalism and organisational leadership/management, see: Chan et al. (2012). "Entrepreneurship, Professionalism, Leadership: A Framework and Measure for Understanding Boundaryless Careers." *Journal of Vocational Behavior*. doi: http://dx.*doi*.org/10.1016/j.jvb.2012.05.001

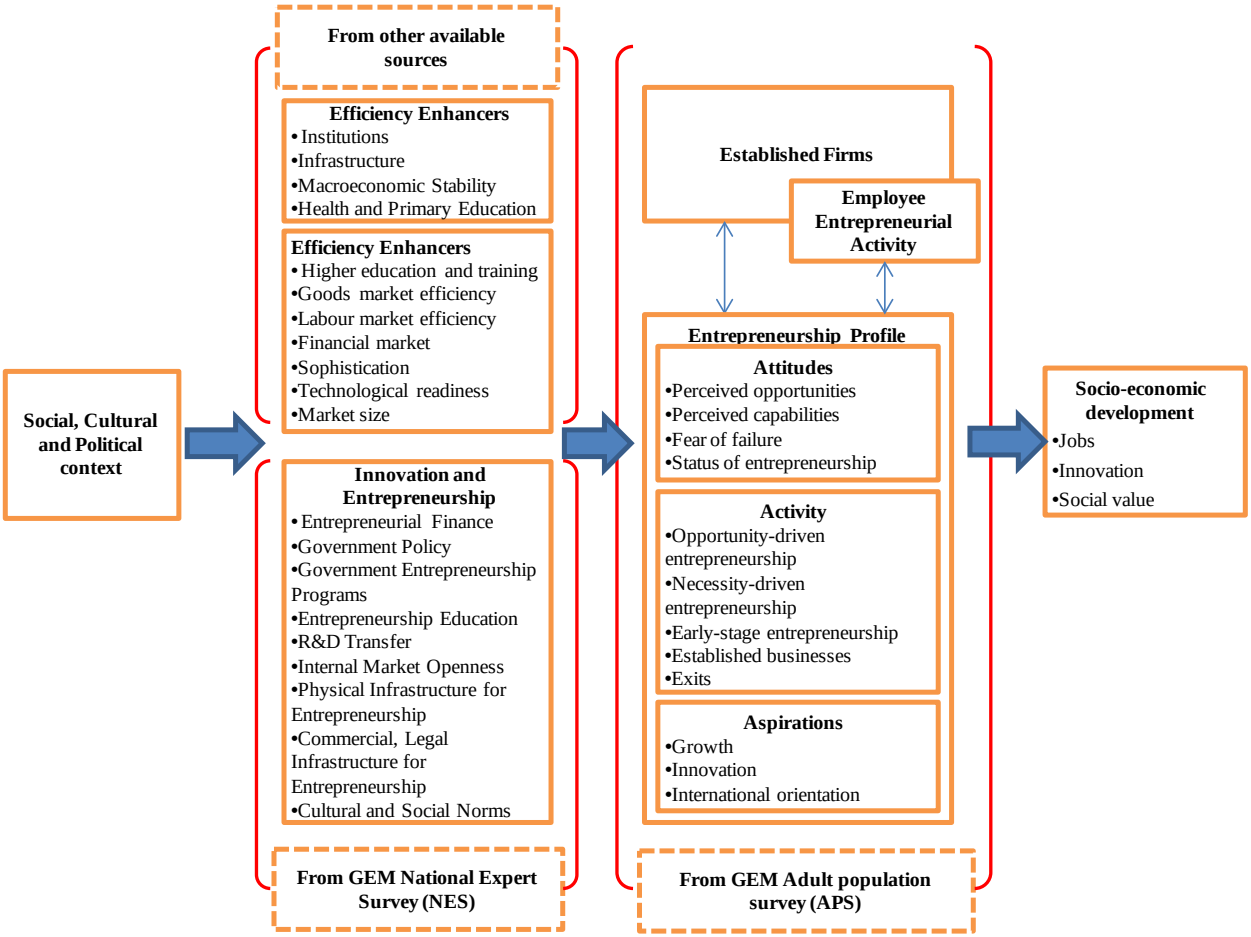
Appendix A: The GEM Framework

Figure A below illustrates the GEM conceptual model of the various institutions within a country that are deemed to be important to the development of entrepreneurship. These have been adopted from the World Economic Forum's (WEF) Global Competitiveness Report. [World Economic Forum. (2011). The global competitiveness Report. Retrieved from http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf].

Beyond contributing to the general well-being of the populace of a country, the "Basic requirements", with key factors such as macroeconomic stability, form the first essential block of prerequisites for entrepreneurship; this is followed by "Efficiency enhancers such as higher education and training as well as technological readiness. Together these two blocks serve as the bedrock from which entrepreneurship can effectively emerge with minimal hindrance.

Highlighted in the figure are nine entrepreneurship framework conditions believed to positively enhance the entrepreneurial climate within a country. These nine framework conditions are examined via the interview data generated by the National Expert Survey conducted by most participating GEM consortium members. The survey of these national experts of these nine framework conditions provides valuable additional insight into the entrepreneurial scene in the country and the institutions supporting it. This would not be otherwise unavailable via the adult population survey. For more information regarding the model, the framework conditions and entrepreneurship, readers may refer to the 2011 GEM Global Report available at: [http://www.gemconsortium.org/docs/2201/gem-2011-global-report].

Figure A. GEM framework



Appendix B: GEM Questions

Appendix B lists the full set of items used in the 2011 GEM questionnaire. Statistics for items not covered in this report are available upon request from the authors. Unless otherwise stated, responses from the items recorded as valid were: Yes, No, Don't know and Refused to answer to answer.

Appendix B.1: Adult Population Survey

Introduction (core questions)

i1.	Do you know someone personally who started a business in the past 2 years?
i2.	In the next six months, will there be good opportunities for starting a business in the area where you live?
i3.	Do you have the knowledge, skill and experience required to start a new business?
i4.	Would fear of failure prevent you from starting a business?

Introduction (optional questions)

1k.	In your country, most people would prefer that everyone had a similar standard of living.
1l.	In your country, most people consider starting a new business a desirable career choice.
1m.	In your country, those successful at starting a new business have a high level of status and respect.
1n.	In your country, you will often see stories in the public media about successful new businesses.

Nascent Entrepreneurs (core)

1A1.	Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?
1A2.	Are you, alone or with others, currently trying to start a new business or a new venture for your employer as part of your normal work?
1B.	Over the past twelve months have you done anything to help start this new business, such as looking for equipment or a location, organizing a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business?
1C.	How many months have you been involved in starting this business? Response options: Open ended response, Don't know and Refused to answer.
1D1.	Will you personally own all, part, or none of this business? Response options: All, Part, None, Don't know and Refused to answer.
1D2.	How many people, including yourself, will both own and manage this new business? Response options: Open ended response, Don't know and Refused to answer.
1E1.	Has the new business paid any salaries, wages, or payments in kind, including your own, for more than three months? "Payments in kind" refers to goods or services provided as payments for work rather than cash.
1E2.	What was the first year the founders of the business received wages, profits, or payments in kind from this business? "Payments in kind" refers to goods or services provided as payments for work rather than cash. Response options: Open ended response, Don't know and Refused to answer.
1E3.	Did the founders of this business receive any wages, profits or payments in kind from this business before 1 January 2008? "Payments in kind" refers to goods or services provided as payments for work rather than cash.

1F. What kind of business is this? What will it be selling? How would it be listed in a business directory, such as the phone book yellow pages?
Response options: Open ended response, Don't know and Refused to answer.

1G1. Will all, some, or none of your potential customers consider this product or service new and unfamiliar**?**
Response options: All, Part, None, Don't know and Refused to answer.

1G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?
Response options: Many business competitors, Few business competitors, No business competitors, Don't know, Refused to answer to answer.

1G3. Have the technologies or procedures required for this product or service been available for less than a year, or between one to five years, or longer than five years?
Response options: Less than a year, Between one to five years, Longer than five years, Don't know, Refused to answer.

1G4. What proportion of your customers will normally live outside your country? Is it more than 90%, more than 75%, more than 50%, more than 25%, more than 10%, or 10% or less?
Response options: More than 90%, More than 75%, More than 50%, More than 25%, More than 10%, Under 10%, None, Don't know and Refused to answer.

1H1. Not counting the owners, how many people are currently working for this business? Please include all exclusive subcontractors, meaning people or firms working ONLY for this business and not working for others as well.
Response options: Open ended response, Don't know and Refused to answer.

1H2. Not counting owners, how many people, including both present and future employees, will be working for this business five years from now? Please include all exclusive subcontractors, meaning people or firms working ONLY for this business, and not working for others as well.
Response options: Open ended response, Don't know and Refused to answer.

1K1. Are you involved in this start-up to take advantage of a business opportunity or because you have no better choices for work?
Response options: Take advantage of a business opportunity, No better choices for work, Combination of both of the above, Have a job but seek better opportunities, Others (open ended response), Don't know and Refused to answer.

1K2. Which one of the following, do you feel, is the most important motive for pursuing this opportunity?
Response options: Greater independence, Increase personal income, Just to maintain income, None of these (others, open ended response), Don't know and Refused to answer.

EEA (Nascent entrepreneurs)

1SP1. Are you in employment in addition to working on this new business?

1SP2. Were you in employment before you started working on this new business?

1SP3. Is your business idea based on an idea you encountered through your experience as an employee?

1SP4**.** Does, or will, one of your current or previous employers provide financial support or physical infrastructure to your new business?

1SP5**.** Will you engage current or previous co-workers in the new business?

1SP6**.** To what extent is the technology of your new business related to the core technologies of your most recent employer? Is it closely related, partially related or not related?
Response options: Closely related, Partially related, Don't know and Refused to answer.

Network (Nascent entrepreneurs)

1T**.** Various people may give you advice on your new business. Have you received advice from any of the following?

2T**.** Various people may give you advice on your business. During the last year, have you received advice from any of the following?

3T**.** Various people may give you advice on your ideas for starting a business. Have you received advice from any of the following?

Response options for items 1T, 2T and 3T were yes, no, Don't know or Refused to answer to answer to the following people that may have given them advice:
a) Your spouse or life-companion, b) Your parents, c) Other family or relatives, d) Friends, e) Current work colleagues, f) A current boss, g) Somebody in another country, h) Somebody who has come from abroad, i) Somebody who is starting a business, j) Somebody with much business experience, k) A researcher or inventor, l) A possible investor, m) A bank, n) A lawyer, o) An accountant, p) A public advising services for business, q) A firm that you collaborate with, r) A firm that you compete with, s) A supplier and t) A customer.

Owner managers

2A. Are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling any goods or services to others?
Response options: Same business, Different business, Don't know and Refused to answer.

2C. Is this the same business as you referred to in the previous questions, or is it a different business?

2D1. Do you personally own all, part, or none of this business?
Response options: All, Part, None, Does not apply, Don't know and Refused to answer.

2D2. How many people, including yourself, both own and manage this business?
Response options: Open ended response, Don't know and Refused to answer.

2E2. What was the first year the founders of the business received wages, profits, or payments in kind from this business? "Payments in kind" refers to goods or services provided as payments for work rather than cash.
Response options: Open ended response, Don't know and Refused to answer.

2E3. Did the founders of the business receive any wages, profits or payments in kind from this business before 1 January 2008?

2F. What kind of business is this? What is it selling? How would it be listed in a business directory, such as the phone book yellow pages?
Response options: Open ended response, Don't know and Refused to answer.

2G1. Do all, some, or none of your potential customers consider this product or service new and unfamiliar?
Response options: All, Some, None consider this new and unfamiliar, Don't know and Refused to answer.

2G2. Right now, are there many, few, or no other businesses offering the same products or services to your potential customers?
Response options: Many business competitors, Few business competitors, No business competitors, Don't know and Refused to answer.

2G3. Have the technologies or procedures required for this product or service been available for less than a year, or between one to five years, or longer than five years?
Response options: Less than a year, Between one to five years, Longer than five years, Don't know and Refused to answer.

2G4. What proportion of your customers normally live outside your country. Is it more than 90%, more than 75%, more than 50%, more than 25%, more than 10%, or 10% or less?
Response options: More than 90%, 75% to 95%, 50% to 75%, 25% to 50%, 10% to 25%, Under 10%, None, Don't know and Refused to answer.

2H1. Not counting the owners, how many people are currently working for this business? Please include all exclusive subcontractors, meaning people or firms working ONLY for this business and not working for others as well.
Response options: Open ended response, Don't know and Refused to answer.

2H2. Not counting owners, how many people, including both present and future employees, will be working for this business five years from now? Please include all exclusive subcontractors, meaning people or firms working ONLY for this business, and not working for others as well.
Response options: Open ended response, Don't know and Refused to answer.

2K1. Did you become involved in this firm to take advantage of a business opportunity or because you had no better choices for work?

Response options: Take advantage of business opportunity, No better choices for work, Combination of the above, Have a job but seek better opportunities, Others (open ended response), Don't know and Refused to answer.

2K2. Which one of the following, do you feel, was the most important motive for pursuing this opportunity?
Response options: Greater independence, Increase personal income, Just to maintain income, None of these (open ended response), Don't know and Refused to answer.

2L. Did you start this business? Were you one of its first owners and managers?

EEA (owner-manager)

2SP1. Are you in employment in addition to owning and managing this business?

2SP2. Were you in employment before you owned and managed this business?

2SP3. Is your business idea based on an idea you encountered through your experience as an employee?

2SP4. Does, or did, one of your current or previous employers provide financial support or physical infrastructure to your business?

2SP5. Have you engaged previous co-workers in your business, or are you planning to engage current or previous co-workers?
Response options: Yes, have engaged, Yes planning to engage, No, Don't know and Refused to answer.

2SP6. To what extent is the technology of your business related to the core technologies of your most recent employer? Is it closely related, partially related or not related?
Response options: Closely related, Partially related, Not related, Don't know and Refused to answer.

Potential Entrepreneurs and discontinuers

3A. Are you, alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?

3B. Have you, in the past 12 months, sold, shut down, discontinued or quit a business you owned and managed, any form of self-employment, or selling goods or services to anyone?

3C1. Did the business continue its business activities after you quit?

3C2. What was the most important reason for quitting this business?
Response options: An opportunity to sell the business the business was not profitable, Problems getting finance, Another job or business opportunity, The exit was planned in advance, Retirement, Personal reasons, An incident, Others (open ended response), Don't know and Refused to answer.

Informal investors

4A. Have you, in the past three years, personally provided funds for a new business started by someone else, excluding any purchases of stocks or mutual funds?

4B. Approximately how much, in total, have you personally provided to these business start-ups in the past three years, not counting any investments in publicly traded stocks or mutual funds?
Response options: open ended response, haven't provided funds, Don't know and Refused to answer.

4C. What was your relationship with the person that received your most recent personal investment? Was this a...
Response options: a) Close family member, such as a spouse, brother, child, parent or grandchild, b) Some other relative, kin or blood relation, c) A work colleague, d) a friend or neighbour, e) a stranger with good business idea, f) other (open ended response), Don't know and Refused to answer.

Employment and EEA

5E. Which of the following describes your current employment status?
Response options: Chose all that apply.

5E1. Employed by others in full-time work

5E2. Employed by others in part-time work

5E3. Self-employed

5E4. Seeking employment
5E5. Not working because I am retired or disabled
5E6. A student
5E7. Full-time home-maker
5E8. Other (open ended response)

EEA (Employed)

5SP1. What type of organization are you working for: for a private for-profit firm, for the government or for a not for-profit organization?
Response option: Private for profit, Government, Not for profit, Other (open ended response), Don't know, Refused to answer

5SP2. How many employees are there in the organization you are working for?
Response option: Open ended response, Don't know and Refused to answer.

5SP3. In the last three years, have you been involved in the development of new activities for your main employer, such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary?

5SP4. And are you currently involved in the development of such new activity?

5SP5. The first phase consists of idea development for a new activity. This includes for example active information search, brainstorming on new activities and submitting your own ideas to management. Have you been actively involved in this phase in the past three years?

5SP5A. And could you tell me whether you had a leading or a supporting role in this phase?
Response option: Leading role, Supporting role, Both, Don't know and Refused to answer.

5SP6. The second phase concerns preparation and implementation of a new activity. This includes for example promoting your idea, preparing a business plan, marketing the new activity or finding financial sources and acquiring a team of workers. Have you been actively involved in this phase in the past three years?

5SP6A. And could you tell me whether you had a leading or a supporting role in this phase?
Response option: Leading role, Supporting role, Both, Don't know and Refused to answer.

5SP7. I would like you to consider the most significant new activity you have been actively involved with in the past three years for your main employer. The next questions deal with this particular new activity. Could you describe this new activity in one sentence?
Response option: Open ended response, Don't know and Refused to answer.

5SP8. How many people do you expect to be working on the new activity five years after its introduction?
Response option: Open ended response, Don't know and Refused to answer.

Appendix B.2: National Expert Survey

Finance

A1	In my country, there is sufficient equity funding available for new and growing firms
A2	In my country, there is sufficient debt funding available for new and growing firms
A3	In my country, there are sufficient government subsidies available for new and growing firms
A4	In my country, there is sufficient funding available from private individuals (other than founders) for new and growing firms
A5	In my country, there is sufficient venture capitalist funding available for new and growing firms)
A6	In my country, there is sufficient funding available through initial public offerings (IPOs) for new and growing firms

Government Policies

B1	In my country, Government policies (e g , public procurement) consistently favor new firms
B2	In my country, the support for new and growing firms is a high priority for policy at the national government level
B3	In my country, the support for new and growing firms is a high priority for policy at the local government level
B4	In my country, new firms can get most of the required permits and licenses in about a week
B5	In my country, the amount of taxes is NOT a burden for new and growing firms
B6	In my country, taxes and other government regulations are applied to new and growing firms in a predictable and consistent way
B7	In my country, coping with government bureaucracy, regulations, and licensing requirements it is not unduly difficult for new and growing firms

Government Programs

C1	In my country, a wide range of government assistance for new and growing firms can be obtained through contact with a single agency
C2	In my country, science parks and business incubators provide effective support for new and growing firms
C3	In my country, there are an adequate number of government programs for new and growing businesses
C4	In my country, the people working for government agencies are competent and effective in supporting new and growing firms
C5	In my country, almost anyone who needs help from a government program for a new or growing business can find what they need
C6	In my country, Government programs aimed at supporting new and growing firms are effective

Education and Training

D1	In my country, teaching in primary and secondary education encourages creativity, self-sufficiency, and personal initiative
D2	In my country, teaching in primary and secondary education provides adequate instruction in market economic principles
D3	In my country, teaching in primary and secondary education provides adequate attention to entrepreneurship and new firm creation
D4	In my country, Colleges and universities provide good and adequate preparation for starting up and growing new firms
D5	In my country, the level of business and management education provide good and adequate preparation for starting up and growing new firms
D6	In my country, the vocational, professional, and continuing education systems provide good and adequate preparation for starting up and growing new firms

Research and Development Transfer

E1	In my country, new technology, science, and other knowledge are efficiently transferred from universities and public research centers to new and growing firms
E2	In my country, new and growing firms have just as much access to new research and technology as large, established firms
E3	In my country, new and growing firms can afford the latest technology
E4	In my country, there are adequate government subsidies for new and growing firms to acquire new technology
E5	In my country, the science and technology base efficiently supports the creation of world-class new technology-based ventures in at least one area
E6	In my country, there is good support available for engineers and scientists to have their ideas commercialized through new and growing firms

Commercial and Services Infrastructure

F1	In my country, there are enough subcontractors, suppliers, and consultants to support new and growing firms
F2	In my country, new and growing firms can afford the cost of using subcontractors, suppliers, and consultants
F3	In my country, it is easy for new and growing firms to get good subcontractors, suppliers, and consultants
F4	In my country, it is easy for new and growing firms to get good, professional legal and accounting services
F5	In my country, it is easy for new and growing firms to get good banking services (checking accounts, foreign exchange transactions, letters of credit, and the like)

Market Openness

G1	In my country, the markets for consumer goods and services change dramatically from year to year
G2	In my country, the markets for business-to-business goods and services change dramatically from year to year
G3	In my country, new and growing firms can easily enter new markets
G4	In my country, the new and growing firms can afford the cost of market entry
G5	In my country, new and growing firms can enter markets without being unfairly blocked by established firms
G6	In my country, the anti-trust legislation is effective and well enforced

Physical Infrastructure

H1	In my country, the physical infrastructure (roads, utilities, communications, waste disposal) provides good support for new and growing firms
H2	In my country, it is not too expensive for a new or growing firm to get good access to communications (phone, Internet, etc)
H3	In my country, a new or growing firm can get good access to communications (telephone, internet, etc) in about a week
H4	In my country, new and growing firms can afford the cost of basic utilities (gas, water, electricity, sewer)
H5	In my country, new or growing firms can get good access to utilities (gas, water, electricity, sewer) in about a month

Cultural and Social Norms

I1	In my country, the national culture is highly supportive of individual success achieved through own personal efforts
I2	In my country, the national culture emphasizes self-sufficiency, autonomy, and personal initiative
I3	In my country, the national culture encourages entrepreneurial risk-taking
I4	In my country, the national culture encourages creativity and innovativeness
I5	In my country, the national culture emphasizes the responsibility that the individual (rather than the collective) has in managing his or her own life

Opportunities to Start Up

K1	In my country, there are plenty of good opportunities for the creation of new firms
K2	In my country, there are more good opportunities for the creation of new firms than there are people able to take advantage of them
K3	In my country, good opportunities for new firms have considerably increased in the past five years
K4	In my country, individuals can easily pursue entrepreneurial opportunities
K5	In my country, there are plenty of good opportunities to create truly high growth firms

Abilities, Knowledge to Start Up

L1	In my country, many people know how to start and manage a high-growth business
L2	In my country, many people know how to start and manage a small business
L3	In my country, many people have experience in starting a new business
L4	In my country, many people can react quickly to good opportunities for a new business
L5	In my country, many people have the ability to organize the resources required for a new business

Entrepreneur Social Image

M1	In my country, the creation of new ventures is considered an appropriate way to become rich
M2	In my country, most people consider becoming an entrepreneur as a desirable career choice
M3	In my country, successful entrepreneurs have a high level of status and respect
M4	In my country, you will often see stories in the public media about successful entrepreneurs
M5	In my country, most people think of entrepreneurs as competent, resourceful individuals

Intellectual Property Rights

N1	In my country, the Intellectual Property Rights (IPR) legislation is comprehensive
N2	In my country, the Intellectual Property Rights (IPR) legislation is efficiently enforced
N3	In my country, the illegal sales of 'pirated' software, videos, CDs, and other copyrighted or trademarked products is not extensive
N4	In my country, new and growing firms can trust that their patents, copyrights, and trademarks will be respected
N5	In my country, it is widely recognized that inventors' rights for their inventions should be respected

Support for Women Starting Businesses

P1	In my country, there are sufficient social services available so that women can continue to work even after they start a family
P2	In my country, starting a new business is a socially acceptable career option for women
P3	In my country, women are encouraged to become self-employed or start a new business
P4	In my country, men and women get equally exposed to good opportunities to start a new business
P5	In my country, men and women have the same level of knowledge and skills to start a new business

Attention to High Growth

Q1	In my country, there are many support initiatives that are specially tailored for high-growth entrepreneurial activity
Q2	In my country, policy-makers are aware of the importance of high-growth entrepreneurial activity
Q3	In my country, people working in entrepreneurship support initiatives have sufficient skills and competence to support high-growth firms
Q4	In my country, potential for rapid growth is often used as a selection criterion when choosing recipients of entrepreneurship support
Q5	In my country, supporting rapid firm growth is a high priority in entrepreneurship policy

Interest in Innovation

R1	In my country, companies like to experiment with new technologies and with new ways of doing things
R2	In my country, consumers like to try out new products and services
R3	In my country, innovation is highly valued by companies
R4	In my country, innovation is highly valued by consumers
R5	In my country, established companies are open to using new, entrepreneurial companies as suppliers
R6	In my country, consumers are open to buying products and services from new, entrepreneurial companies

Entrepreneurial Employee Activity

T1	There are no formal restrictions if you want to start a business using the resources, knowledge and contacts obtained from your current job as an employee
T2	Top-down decision making strategies dominate bottom-up decision making strategies within large organizations
T3	Top-down decision making strategies dominate bottom-up decision making strategies within small and medium sized organizations
T4	Employers provide support to employees who come up with new ideas
T5	Employees support colleagues who come up with new ideas

Conditions that foster Entrepreneurial Employee Activity

U1	Entrepreneurs have much less access to social security than employees
U2	The education system emphasizes innovative and pro-active behavior of individuals in general
U3	Employers stimulate proactive behavior by employees
U4	The level of employment protection is deterring employees to start their own business

Appendix C: List of Comparison Countries participating in the NES

The countries included in the comparison with Singapore for the NES are listed below. Note that these countries were selected on the basis of their innovation-driven economy or in some cases, their geographic and cultural similarities with the Singapore economy. For a full listing of all 54 participating countries readers may refer to the 2011 GEM Global Report available at: [http://www.gemconsortium.org/docs/2201/gem-2011-global-report].

NES comparison countries in alphabetical order:

1. Australia
2. Czech Republic
3. Finland
4. France
5. Germany
6. Greece
7. Ireland
8. Korea
9. Malaysia
10. Netherlands
11. Norway
12. Portugal
13. Slovenia
14. Spain
15. Sweden
16. Switzerland
17. Taiwan
18. United Arab Emirates
19. United Kingdom

Appendix D: NES Experts

Table D lists, in no particular order, the National Experts who were interviewed in the 2011 GEM Singapore.

Table D: NES Experts

Salutation	Name	Position	Affiliation
Mr.	Asher Ling	Senior Analyst	KPMG, Singapore
Mr.	Carlo Pozzi	Director	Business Angel Network South East Asia
Dr.	Chia Boon Tat	Chief Executive Officer	Interactive Micro-Organisms Laboratories Pte. Ltd.
Mr.	Chiew Yu Sarn	Partner	Yu Sarn Audrey and Partners, Advocates and Solicitors
Prof.	Chou Siaw Kiang	Executive Director	Energy Studies Institute, National University of Singapore
Ms.	Christina Gee	Deputy Director	Intellectual Property Management, Nanyang Technological University
Mr.	Douglas Abrams	Founding partner and managing director	Expara IDM Ventures
Mr.	Eric Mun	Chief Executive Officer	The Institute of Environmental Science and Engineering Pte. Ltd. (IESE).
Mr.	Eric Tan	Senior Manager	SPRING SEEDS Capital Pte Ltd
Mr.	Eric Teo	Assistant Director	Entrepreneurship and Start-up, Infocomm Development Authority of Singapore
Mr.	Felix Lee	Business Development Director	Keio-NUS CUTE Center
Mdm.	Florence Leong	Director	Biovation Management
Dr.	Frank Levinson	Managing Director	Small World Group
Mr.	Fred Then	Mentor	NTU Ventures Pte. Ltd.
Mr.	Hau Koh Foo	Head (Projects)	National Research Foundation, Prime Minister's Office
Mr.	Jack Sim	Chief Executive Officer	World Toilet Organization
Mr.	James Chan	Investment Manager	Neoteny Labs
Mr.	Jeffrey Nadison	Chief Executive Officer (Innovation)	Nanyang Technological University
Mr.	Jeffrey Paine	Director	Founder's Institute, Singapore.
Dr.	Kalidindi Kotam Rajan	Assistant Director	Technology Development, Nanyang Innovation and Enterprise Office
Mr.	Kenneth Tsang	Former Chief Executive Officer	Zenithoptimedia
Mr.	Kok Kitt-wai	Deputy Director	Intellectual Property Office of Singapore
Dr.	Lam Kwok Yan	Founder	PrivyLink International Limited
Mr.	Lee Sze Chin	Center director (Shanghai)	Infocomm Development Authority of Singapore
Mr.	Lim Kuo-Yi	Chief Executive Officer	Infocomm Investment Pte. Ltd.
Prof.	Lye Kin Mun	Deputy Executive Director	Science & Engineering Research Council, Agency for Science Technology and Research, Singapore
Dr.	Lye Whye Kei	Chief Executive Officer	SysteMED Pte. Ltd
Mr.	Ong Sang Bin	Mentor	NTU Ventures Pte. Ltd.
Dr.	Reto Callegari	Chairman and Executive Director	ADVAL CIC (S) Pte. Ltd.

Salutation	Name	Position	Affiliation
Mr.	Samuel Lew	Assistant Head of Industry Development	Science & Engineering Research Council, Agency for Science Technology and Research
Mr.	Sim Choon Siong	Director of Entrepreneurship Development	SPRING, Singapore
Dr.	Sze Tiam Lin	Director	Intellectual Property Intermediary (IPI) Ltd
Dr.	Tan Geok Leng	Acting Executive Director	I²R, Agency for Science Technology and Research, Singapore
Mr.	Tay Kheng Soon	Principal Partner	Akitek Tenggara
Mdm.	Teo Mee Hong	Executive Director	Social Enterprise Association Ltd.
Mr.	Thomas Pang	Chief Executive Officer	K-GreenTrust
Mr.	Too York Lou	Head of Technology Specialist Department	SPRING, Singapore
Mr.	Tralvex Rex Yeap	Partner	Invention Capital LLP
Mr.	Wilson Wong	Director	Amica Law LLC
Mr.	Woon Tai Ho	Former Chief Executive Officer	Channel News Asia, Media Corp Pte. Ltd.
Mr.	Xia Zhiqiang	Senior Assistant Director	Nanyang Technopreneurship Centre, Nanyang Technological University
Prof.	Yeo Kiat Seng	Associate Chair (Research)	School of Electrical & Electronic Engineering, Nanyang Technological University