



GLOBAL ENTREPRENEURSHIP MONITOR UNITED ARAB EMIRATES 2016/17 ANNUAL REPORT

AUTHORS

Prof. Nihel Chabrak, UAEU CBE

Dr. Elif Bascavusoglu-Moreau, PSUAD

Dr. Chafik Bouhaddioui, UAEU CBE

Dr. Llewellyn Thomas, Imperial College London



GLOBAL ENTREPRENEURSHIP MONITOR UNITED ARAB EMIRATES 2016/17 ANNUAL REPORT

Disclaimer:

Although GEM data were used in the preparation of this report, their interpretation and use are the sole responsibility of the authors.

The UAE team authors would like to express their gratitude to the GEM 2016 national teams for their crucial role in conducting the GEM survey in their respective economies. The authors would like to extend special thanks to Jonathan Carmona, Alicia Coduras, and Forrest Wright for their contribution to the data-collection procedures and data analysis. Special thanks go to Saudi Arabia team and mainly to Alicia Coduras for their help on the report, Iskren Krusteff and Mira Krusteff from GEM Bulgaria for their advice and continuous support and Iñaki Peña from GEM Spain for his guidance. The usual disclaimer applies.



TABLE OF CONTENT

05	GLOBAL ENTREPRENEURSHIP MONITOR FOREWARD BY UAEU CHANCELLOR
06	SPONSORING & LEADING INSTITUTION
06	UNITED ARAB EMIRATES UNIVERSITY – THE UNIVERSITY OF THE FUTURE
07	VISION
07	MISSION
07	GOALS
08	UAEU SCIENCE AND INNOVATION PARK – THE OASIS OF MINDS
10	REPORT AUTHORS AND GEM UAE TEAM MEMBERS
16	EXECUTIVE SUMMARY & KEY FINDINGS
22	INTRODUCTION TO GEM
24	GEM CONCEPTUAL FRAMEWORK
27	GEM MODEL OF BUSINESS PHASES AND ENTREPRENEURSHIP CHARACTERISTICS
28	GEM METHODOLOGY AND INSTRUMENTS (APS & NES)
32	DASHBOARD OF GEM INDICATORS
33	SUMMARY OF THE GLOBAL REPORT 2016/17
36	INTRODUCTION TO THE REPORT
36	CONTEXT: THE UAE IN BRIEF
40	HOW TO READ THE UAE GEM REPORT
43	CHAPTER 1: SOCIETAL VALUES AND INDIVIDUAL SELF-PERCEPTIONS ABOUT ENTREPRENEURSHIP
45	1.1 SOCIETAL VALUES
45	GENERAL OVERVIEW
45	INTERNATIONAL POSITION
46	TEMPORAL EVOLUTION
46	FURTHER ANALYSIS OF THE PERCEPTION OF SOCIETAL VALUES RELATED TO ENTREPRENEURSHIP IN THE UAE
49	1.2 INDIVIDUAL SELF-PERCEPTIONS
49	GENERAL OVERVIEW
50	INTERNATIONAL POSITION
50	TEMPORAL EVOLUTION
51	FURTHER ANALYSIS OF INDIVIDUAL SELF-PERCEPTIONS ABOUT ENTREPRENEURSHIP
55	CHAPTER 2: ENTREPRENEURIAL AND BUSINESS ACTIVITY IN THE UAE
56	2.1 GENERAL OVERVIEW
58	2.2 INTERNATIONAL POSITION
61	2.3 TEMPORAL EVOLUTION
61	2.4 ENTREPRENEURIAL ACTIVITY IN THE UAE: FURTHER ANALYSIS
62	2.5 ENTREPRENEURIAL EMPLOYEE ACTIVITY IN THE UAE (EAA)



TABLE OF CONTENT

65	CHAPTER 3: ENTREPRENEURIAL ACTIVITY CHARACTERISTICS & ASPIRATIONS
66	3.1 MOTIVATION FOR EARLY STAGE ENTREPRENEURIAL ACTIVITY
67	GENERAL OVERVIEW
67	INTERNATIONAL POSITION
68	MOTIVATION FOR EARLY STAGE ENTREPRENEURIAL ACTIVITY: FURTHER ANALYSIS
70	3.2 SECTOR OF ACTIVITY
72	3.3 OWNERS AND THEIR CHARACTERISTICS
74	3.4 JOB CREATION
79	CHAPTER 4: INNOVATION AND COMPETITIVENESS
80	4.1 INNOVATIVE COMPONENTS
82	4.2 USAGE OF RECENT TECHNOLOGIES
83	4.3 COMPETITIVENESS
84	4.4 INTERNATIONALIZATION
87	CHAPTER 5: UAE ENTREPRENEUR PROFILE
88	5.1 INTRODUCTION
94	5.2 TYPICAL PROFILE OF THE UAE ENTREPRENEUR
96	CASE STUDY: ENTREPRENEURSHIP & HAPPINESS IN THE UAE: HOW TO INCREASE WELLBEING FOR A QUALITY OF GROWTH
102	CASE STUDY: WOMEN AND ENTREPRENEURSHIP IN THE UAE
107	CHAPTER 6: INFORMAL INVESTMENT ACTIVITY
108	6.1 INTRODUCTION
108	6.2 VOLUME OF INFORMAL INVESTMENT AND ADULT POPULATION ACTING AS INFORMAL INVESTORS
110	6.3 INFORMAL INVESTORS CHARACTERISTICS AND RELATIONSHIP WITH BENEFICIARIES
115	CHAPTER 7: PERCEIVED QUALITY OF THE ENTREPRENEURIAL ECOSYSTEM
116	7.1 OVERVIEW OF THE ENTREPRENEURIAL ECOSYSTEM CONDITIONS
117	CASE STUDY: FINANCING IN THE UNITED ARAB EMIRATES
128	7.2 INTERNATIONAL POSITION
130	7.3 SYNTHETIC VIEW
131	7.4 TEMPORAL EVOLUTION
131	7.5 NATIONAL EXPERTS VIEWS ON MAIN CONSTRAINTS AND SUPPORTS FOR ENTREPRENEURIAL ACTIVITY IN 2016
134	7.6 NATIONAL EXPERT VIEWS ON MAIN RECOMMENDATIONS TO IMPROVE THE ECOSYSTEM IN 2016
138	CONCLUSION: SUMMARY & RECOMMENDATIONS FOR POLICY AND PRACTICE
144	CASE STUDY: DUBAI FUTURE ACCELERATORS: PULLING THE FUTURE FORWARD
152	HOW TO PROMPT UNIVERSITY STUDENTS TO DISCOVER THE ENTREPRENEURIAL POTENTIAL THEY HAVE
156	REFERENCES

FOREWORD TO THE GEM REPORT 2016/17

The United Arab Emirates University (UAEU) is the Flagship University of the UAE, and we aspire to become “the University of the Future” in the UAE and the Middle East. UAEU is also the first “entrepreneurial university” in the country that helps instill a culture that fosters leadership, creativity, responsibility and ambition in the new generation. In the strive to achieve our vision of excellence and leadership, as well as meeting the needs of the labor market by developing the skills and capabilities of Emirati students, while encouraging young people to contribute to building and supporting a knowledge-based economy, we have put in place structures and programs to productize inventions through start-up creations and other commercialised solutions.

In light of this premise, the UAEU has led the fifth GEM cycle. We believe in the importance of providing in-depth, evidence-based analysis of entrepreneurship in the country. By doing so, we also facilitate impact assessment and help policy makers understand how and to what extent policies and programs are achieving the entrepreneurship goals contained in the national agenda.

Our belief is that entrepreneurship is crucial to building a competitive knowledge economy, one of the pillars of the UAE National Agenda leading to the UAE Vision 2021. The National Agenda aims to transform the UAE to be among the best in the world in terms of ease of doing business, innovation, entrepreneurship and R&D indicators. The UAE strives to become a global capital of innovation and a hub for exponential technologies that will shape human lives over the next century.

To become one of the best destinations in the world in the field of entrepreneurship, the Government has put policies and programs in place to unlock the potential of its nationals through their active participation in small and medium enterprises in the private sector to make them a driving force in the UAE’s economic development. The UAE has also created a nurturing environment to attract those with exceptional talents, from all over the world, to generate disruptive solutions in order to further enhance the lifestyle for its residents and thereby to improve their wellbeing.

To produce this report, UAEU has engaged many of its partners from industry and other educational institutions that I would like to thank for their valuable contribution in making this project happen.

As “the University of the Future”, UAEU is committed to promoting entrepreneurship and innovation in the UAE to facilitate the country’s shift to a sustainable knowledge-based economy. Our gratitude to the forward-thinking leadership of the Nation that made entrepreneurship and innovation integral to UAE culture.

Dr. Ali Rashid AL Noaimi
Chancellor

SPONSORING & LEADING INSTITUTION

UNITED ARAB EMIRATES UNIVERSITY – THE UNIVERSITY OF THE FUTURE



The United Arab Emirates University (UAEU) - the first and foremost comprehensive national university in the United Arab Emirates. It was founded in 1976 by the late Sheikh Zayed Bin Sultan Al Nahyan, as he dreamed of a national flagship university that would provide students with a world class education and supply the knowledge and the skilled workers necessary to support the national economy, while helping to solve some of the nation's most pressing problems through research. Today, UAEU is an internationally accredited institution (WASC accredited) and aspires to become a comprehensive, research-intensive university and currently enrolls approximately 14,000 Emirati and international students.

As the UAE's flagship university, UAEU offers a full range of accredited, high-quality graduate and undergraduate programs through nine Colleges: Business and Economics; Education; Engineering; Food and Agriculture; Humanities and Social Sciences; IT; Law; Medicine and Health Sciences; and Science. With a distinguished international faculty, state-of-the art new campus, and full range of student support services, UAEU offers a living-learning environment that is unmatched in the UAE.

In its drive to achieve international research stature, UAEU works with its partners in industry to provide research solutions to challenges faced by the nation, the region, and the world. The University has established research centers of strategic importance to the country and the region which are advancing knowledge in critical areas ranging from water resources to cancer treatments. UAEU is ranked among the top research universities in the GCC and the Arab World. It has been ranked the nation's best university and now stands among the top 1.5 percent of universities in the world, according to a prestigious global overview of higher education institutions (the QS World University Rankings 2018). By 2030, the university aims to rank among the top 20 academic institutions in Asia and the top 200 in the world.

UAEU aspires to be "the University of the Future" in the UAE and the Middle East. It seeks to be the university of choice for undergraduate and graduate education, and research, training and lifelong learning. The university is one of the leading institutions contributing to the UAE government's efforts towards realizing UAE Vision 2021 by encouraging and supporting excellence and creativity in the fields of scientific research and technology and by promoting knowledge transfer through innovation, entrepreneurship and leadership. In its pursuit to achieve the UAE vision 2021, UAEU and the Telecommunications Regulatory Authority, represented by the ICT Fund, have established in 2016 the National Space Science and Technology Centre (NSSTC) whilst in 2017, UAEU in collaboration with the National Happiness and Positivity Program, established the Emirates Center for Happiness Research (ECHR), the first of its kind in the UAE and the Middle East.

VISION

Leadership and innovation in higher education, research and community service at national and international levels.

MISSION

UAEU will continue its positive contribution to the advancement of UAE by delivering undergraduate and graduate education that meets international standards, engaging effectively with the community and the world to foster knowledge creation and dissemination, and enhancing the research capacity of the country.

GOALS

Goal 1: Prepare students to be distinguished in their areas of specialization, leaders and productive members of society.

Goal 2: Develop research capacity and innovation in areas of national and global importance.

Goal 3: Expand international accreditation for the university and its academic programs and promote the university's global reputation.

Goal 4: Promote the University's role in the transfer of knowledge and skills to serve the society.

Goal 5: Ensure high quality, efficient and transparent administrative services.

Goal 6: Entrench a culture of innovation in institutional work environment.



منتزه جامعة الإمارات للعلوم والابتكار
UAEU SCIENCE & INNOVATION PARK



واحة العقول
AN OASIS OF MINDS

UAEU SCIENCE AND INNOVATION PARK THE OASIS OF MINDS

UAEU Science & Innovation Park (UAEU-SIP) is designed to create an environment where stakeholders such as businesses at the forefront of their fields and government agencies work together with top academicians and researchers. UAEU-SIP is the nucleus of new technology, where ideas become reality, training creates excellence and research unearths new understanding of the real challenges in society to generate effective solutions and large impact.

UAEU-SIP is an innovation ecosystem that enhances the diversification of the UAE economy to become a knowledge-based economy. For that purpose, UAEU-SIP is a collaborative platform that promotes scientific research and its dissemination amongst its own research community and the various companies based in the park; it offers new educational experiences for students, while serving community and established businesses; it enriches the University intellectual property portfolio, Spin-offs and start-ups creation; it catalyses the commercialization of innovative products and contributes to developing the leaders of tomorrow.

Designed to boost UAE competitiveness as an innovative economy and to provide entrepreneurs with the required support to start their business in terms of skills, risk acceptance, networking, technology absorptions, and innovation process, the UAEU-SIP will drive the following three high-level outcomes:

- 1. Partnership:** the UAEU-SIP will become a connector [a bridge] between different stakeholders by developing networks of national and international partners.
- 2. Commercialization:** encourage and support commercialization of new ideas, products and inventions by providing emerging talent with skills, start-ups support and advice.
- 3. Leadership:** inspire, engage, coach, and guide Emirati students, young graduates from UAE universities and investors to play a leading role in the development of knowledge-based economy through active training and mentorship programs.

MISSION

To become a global hub that supports innovation, entrepreneurship and leadership, to stimulate a quality of growth based on sustainability and inclusiveness.

GOALS

To achieve its mission, the UAEU-SIP brings together the preconditions to build an ecosystem that promotes a new quality of growth:



1. **(NQG)** Support innovation to solve significant global challenges, foster inclusiveness, sustainability and build a brighter future for youth at large scale;
2. **(KH)** Extend the university research capacities and stimulate R&D transfer;
3. **(KH)** Create a global network of like-minded talents, attract nomad innovators and entrepreneurs, industries, NGOs, Government agencies to be part of the Science & Innovation Park tribes;
4. **(CM)** Offer programs to instil entrepreneurship and innovation culture, engage and train change-makers and leaders, up-skill researchers, promote entrepreneurial scientists and support start-up capacity building;
5. **(C)** Create, govern and report on a special revolving fund with public and private contribution;
6. **(IAR)** Map the entrepreneurship ecosystem, conduct impact-assessment and produce information for evidence-based policy-making to support ecosystem conditions improvement.



REPORT AUTHORS AND GEM UAE TEAM MEMBERS



PROF. NIHEL CHABRAK
GEM UAE Team Leader, UAEU CBE



DR. ELIF BASCAVUSOGLU-MOREAU
GEM UAE Writing Team, PSUAD



DR. CHAFIK BOUHADDIOU
GEM UAE Data Specialist, UAEU CBE



DR. LLEWELLYN D W THOMAS
GEM UAE Writing Team, LaSalle Universitat Ramon Llull



DR. SO-JIN YOO
GEM UAE Writing Team, UAEU CBE



DR. YEHYA AL MARZOUQI
Executive Director Strategy, Tawazun



NAEMA ALSHAMSI
GEM UAE Admin Contact,
UAEU Science and Innovation Park



MOHAMED MADI AHMED
Expert, UAEU



DHUHA FADHEL
Senior Economist Dubai Economic Council



SCOTT GILLESPIE
Founder and Managing Partner, Jigsaw Group



SOPHIA KORAYIM
Expert



MARIA PEARSON
CEO and Founder, Grow.ME

**EMAN REFAAT**

Senio Economic Specialist,
Department of Economic Development, Dubai

**CONSTANCE VAN HORNE**

Assistant Professor of Management,
University of New Brunswick

**WILLOW WILLIAMSON**

PhD Candidate, School of International
Service at American University



EXECUTIVE SUMMARY & KEY FINDINGS

The 2016 GEM UAE survey is the fifth year that GEM has tracked rates of entrepreneurship and assessed the characteristics, motivations, and ambitions of entrepreneurs, the attitudes of UAE society towards entrepreneurship, as well as the quality of the entrepreneurial ecosystem. This report includes results based on 2000 working-age individuals (between the ages 18 and 64 years) completing the Adult Population Survey (APS) and 36 experts completing the National Experts Survey (NES). Below are selected key findings from the report.

SOCIETAL VALUES AND INDIVIDUAL PERCEPTIONS ABOUT ENTREPRENEURSHIP

1. There is a strong cultural agreement favorable to entrepreneurship in the UAE despite a clear inclination towards living in a less competitive society. Most of the working-age population considers starting new businesses as good career choice and believes successful entrepreneurship earns social status and respect. Media is seen as supportive to new business creation and starting a new business is considered relatively easy. Businesses are perceived as serving primarily social problems. However, the UAE adult population prefers a less competitive society with a clear penchant towards having similar standards of living. Benchmarked to the comparator countries, including Innovation-Driven economies and GEM averages, the UAE has one of the strongest profiles about societal values about entrepreneurship, except for the preference for competitive society (with only Saudi Arabia being comparable). Living in a competitive society is considered to lead to the development of a competitive spirit that generally supports a healthy entrepreneurial ecosystem. Over the years, UAE society seems to be exhibiting an increasing desire for less competitive society. Although the adult population perception of entrepreneurship was adversely impacted during the period of the 2008 financial crisis, “the U-shape exhibited by most indicators suggests that with improving economic conditions”, the UAE working population is increasingly considering entrepreneurship a good option.
2. The self-perception of entrepreneurship by the UAE adult population is also very favourable towards an increased entrepreneurial activity. 61.7% of working-age adults in the UAE personally know recent entrepreneurs. Moreover, 55.2% of the working-age individuals consider that they have entrepreneurial skills. However, only 25.8% of UAE adult population see good opportunities in starting up new businesses in the six months following the survey, which is the lowest rate compared to the benchmarked countries. More concerning is that 54.3% of adult population is constrained from starting a business due to a “fear of failure”, the highest rate worldwide. Since 2007, the self-perception of opportunities to start a new business has steadily decreased while the rate of ‘fear of failure’ has continuously increased. This trend may have led to a continuous decrease in entrepreneurial activity in the UAE. Although, having the lowest level of knowledge, skill and experience required to start a new business, individuals with no university education have the lowest level of fear of failure to start a business. In contrast, non-Emirati expats perceive more opportunities to start a new business, while Emiratis have less fear of failure. From a regional perspective, adult population in Sharjah seem to have the highest rate of perceived opportunities to start a new business and one of the lowest rates on fear of failure.

THE ENTREPRENEURIAL PIPELINE IN THE UAE

1. In 2016, almost half of the UAE adult population have an intention to start a new business in the next three years. This rate of potential entrepreneurship is the highest among the comparison countries. However, nascent entrepreneurs (active in the market for up to three months) represent only 1.3% of the adult population and 4.4% are involved in new businesses (active in the market for 3–42 months). Thus, only 5.7% of adult population is involved in total early stage entrepreneurial activity (TEA) in the UAE, which is the lowest rate compared to the benchmarked countries. More concerning is that the rate of consolidated or established firms (those operating in the market for more than 42 months) is quite low and involves only 1.9% of the same population. There has been a consistent decrease in the number of nascent businesses between 2009 and 2016, while new businesses appear to have rebounded in 2016 after many failing in the 2009–2011 period. However, the established business rate has been consistently decreasing over the period, albeit at a slower rate from 2011 to 2016 than 2009 to 2011. These dynamics suggest that business development and consolidation models are not working properly in the UAE.
2. The fact that the TEA compared to potential entrepreneurship is only 0.12 while exited activity is 2.84 times nascent activity attests that the pace of business creation versus cessation in the UAE in 2016 is not very well balanced. Only few of the adult population start businesses and many early stage ventures discontinue, as not being good-potential businesses that are able to compete and survive in the market for an extended period. Although 62% of discontinued businesses continue activity in other hands, they are still likely to exit totally the market since the main reason for most UAE entrepreneurs to discontinue or close their businesses is due to lack of profitability (39.9%). Finally, the UAE has the lowest proportion of businesses that planned the exit in advance, with only 0.97% of responds mentioning this as well as the lowest rate of business discontinuation for family or personal reasons (6.94%) after Saudi Arabia, which suggests that the work – life balance for entrepreneurs in the Middle East is positive.
3. Emiratis are involved in 30.8% of nascent businesses, 24.7% of new businesses and 24.3% of established businesses. Moreover, Emirati early stage entrepreneurs represent 10.1% of the Emirati population living in the UAE, while non-Emirati expats involved in TEA are 5% of the total expats population living in the UAE. This suggests that Emiratis are proportionally more involved in early stage entrepreneurial activities than non-Emirati expats.
4. In addition to independent entrepreneurial activity, 4.1% of the same population are involved in “intrapreneurship”, that is, as entrepreneurs within a company or organization. In comparison to the level of intrapreneurial activity in innovation-driven economies, there is still considerable room for more intrapreneurship in the UAE.

MOTIVATIONS

1. 61.8% of entrepreneurs in the UAE in 2016 have started their businesses to pursue an opportunity rather than out of necessity. However, over the years, it seems that an increasing proportion of entrepreneurs in the UAE are starting their businesses by necessity rather than responding to a perceived market opportunity. For Emirati entrepreneurs, the rates for entrepreneurship by opportunity are similar across the regions except in Abu Dhabi, which has the lowest opportunity driven activity by Emiratis (16.7%) and the highest activity driven by necessity (83.3%), most likely for the current economic situation, which is more sensitive to oil and gas prices.
2. Earning more income and greater independence appear to be the prevailing perceived benefits of starting up businesses in the UAE. For instance, 61.3% of those involved in nascent activity are seeking to increase their personal income, while 38.7% are looking for gaining greater independence. GEM calls these individuals “improvement-driven opportunity” (IDO) entrepreneurs and offers an index called the Motivational Index. In 2016, the UAE IDO index is 1.4, which is the proportion of entrepreneurs who reported an IDO motive within the TEA stage (40.7%) to necessity driven entrepreneurs (29.2%).

Industry Sector Participation

1. In 2016, early stage activity is concentrated mainly in ‘Consumer oriented services’ sector (45.3%), while the most significant proportion of established businesses is involved in the transformative sector (50.6%). The business-service sector is less (only 14.2% in early stage activities and 16.6% in established businesses) than what would be expected, given the need for business infrastructure to serve the other two major sectors. In contrast, in 2016, only 0.9% of the TEA is in the extractive sector. To better use the UAE natural resources, there is a need for more innovation by early stage entrepreneurs to be able to establish more in the extractive sector and to increase its dynamism.

JOB CREATION AND AMBITIOUS ENTREPRENEURS IN THE UAE

1. In 2016, more than 50% of nascent activities in the UAE are undertaken by teams of 3 owners, while 80% of established businesses are run by one entrepreneur. With an average of 2.41 owners, the businesses in the UAE have some of the largest teams involved in TEA compared to benchmarked countries. The average number of owners involved in total early stage businesses remained the same over the years whereas the average number of owners in established businesses has steadily decreased since 2007. This might be the result of increasing internal issues within founding teams, which might explain the weak business consolidation observed in 2016.
2. In 2016, 67.3% of early stage entrepreneurs have created more than 6 jobs, while half of them have even created more than 20 jobs. Job creation has firmly increased since 2007. As they gain market experience as they get consolidated established businesses tend to create even more jobs. For instance, 50% of established businesses in the UAE employ more than 20 employees.
3. Job creation expectations reflect growth expectations by entrepreneurs. In 2016, 96.7% of established entrepreneurs project to employ more than 6 people in the next five years, suggesting they are medium to high growth entrepreneurs, rate increasing since 2009. Growth expectation for early stage entrepreneurs is less dynamic. In 2009, 87.9% of early stage entrepreneurs were aspiring to employ more than 6 employees in the next five years, while in 2016 their proportion dropped to 79.3%.

INNOVATION, COMPETITIVENESS AND INTERNATIONALIZATION

1. GEM estimates the presence of innovative components by asking entrepreneurs how many (potential) customers consider the product/service they offer as new or unfamiliar. In the UAE, roughly 40% of the entrepreneurial firms since 2009 state do not offer an innovative product and/or service to their customers. Of course, this evaluation does not reflect whether the innovation component is competitive only within the country or also at international level. For instance, customers who are exposed to international markets may already know the product or service, yet it does not mean the same product or service exists already in the UAE. In these latter cases, entrepreneurial firms could be offering an incremental innovation, which is not recognized. While the percentage of TEA offering "products new to all customers" (38%) is the highest compared to the benchmarked countries, the proportion of the UAE established businesses featuring the same innovative offering (5.64%) is the lowest. Finally, the percentage of established businesses without any innovative component in their products and/or services has steadily increased since 2009 from 44.4% to reach 94.4% in 2016.
2. Although innovation is frequently associated with businesses developing new technologies, in the case of the UAE, innovation is almost fully related to sectors with no or low technological intensity. This situation has remained unchanged since 2009.
3. To assess the quality of the entrepreneurial activity in a country, GEM measures the modernity of technologies used by entrepreneurs to produce their goods and services. Although more than 50% of early-stage entrepreneurial activities are using very latest or new technologies, established businesses rely mainly and almost only on old technologies and this situation has deteriorated with time with the percentage of established businesses using latest technologies dropping from 6% in 2009 to 0% in 2016.
4. Considering competitiveness, GEM estimates the proportion of businesses that consider there are few, none or many firms offering the same products or services in their target markets. In 2016, no UAE entrepreneurs in all stages were without competition; instead, 66.1% of early stage entrepreneurs and 95.3% of established entrepreneurs considered that they had many competitors. This suggests that they are the least competitive across the comparator countries.
5. GEM estimates internationalization through the percentage of entrepreneurs involved in export activities. In 2016, UAE early stage entrepreneurs exhibited higher export intensity compared to established businesses, with 44.8% of early stage entrepreneurs having more than 75% of their sales out of the country, while established businesses having the same export intensity represent only 13.6%. In contrast, 68.2% of established businesses have 25% of their sales or under out of the country. The export intensity of UAE entrepreneurs has improved significantly between 2009 and 2016. In 2009, 32.3% of early stage entrepreneurial activities and 25.5% of established businesses were non-active in internationalization, whereas these figures have dropped to 0.8% and 0% respectively in 2016.

TYPICAL PROFILE OF UAE EARLY STAGE ENTREPRENEUR

1. The typical UAE early-stage entrepreneur is a male (4.5% of TEA out of 5.7%), non-Emirati expat (73.9%), who is 38 years old, lives in Abu Dhabi (36.8%), has a university degree (58%), works full or part time in his business (91.2%), lives in a household of almost 5 members, and whose annual income is between 100,000 and 150,000 AED (54%),
2. The Emirati early stage entrepreneur is a male (80%), aged between 25 and 44 years old (66%), who has a secondary education (58.6%), lives in a household of almost 6 members (34.5%), is opportunity-driven entrepreneur (61.1%), motivated by enhancing his income or independence (48.4%), and whose annual income is between 144,000 and 192,000 AED (56.7%). He is involved in the retail sector (36.7%), employs 1 to 5 jobs (44.6%) and projects to employ more than 6 employees in the next five years (80%).

TYPICAL PROFILE OF UAE INFORMAL INVESTOR

1. GEM also captures data on informal investment of entrepreneurial activity. The UAE informal investor in 2016 is a male (68.6%), who is 37.5 years old, has post-secondary educational level (56%), works full or part time (91.6%), knows entrepreneurs that recently started-up businesses (88.3%), has been involved in an early stage entrepreneurial activity (37.1%), perceives good opportunities to start-up in the zone where he lives (74.8%), is funding a work colleague (49.2%), and whose income belongs to the highest earners percentile (59.5 %).
2. Similar to the TEA, the percentage of people who declared having acted as informal investors has continuously decreased since 2009 from 8.7% to 4.4% in 2016. The average individual contribution of informal investors has also dramatically decreased from 100,000 AED in 2009 to 30,000 AED in 2016.



ENTREPRENEURSHIP ECOSYSTEM IN THE UAE

1. The quality of the entrepreneurship ecosystem in the UAE is assessed through National Experts Survey (NES).
2. The UAE outperforms the GEM, Middle East & North Africa and innovation driven economies averages on most aspects. It outperforms strongly on cultural and social norms, government policies and programs and school-level entrepreneurship education. It less well outperforms on physical infrastructure, internal market burdens, internal market dynamics and commercial and legal infrastructure. The conditions scoring lowest are R&D transfer, entrepreneurial finance, and post-school entrepreneurship education.
3. Among the 66 economies participating in GEM 2016, the UAE ranks as follows for the 12 main entrepreneurial framework conditions evaluated by GEM experts:

FRAMEWORK CONDITION	UAE RANK
Financing for entrepreneurs	32
Government policies: support and relevance	3
Government policies: taxes and bureaucracy	5
Government entrepreneurship programs	6
Entrepreneurial education at school stage	4
Entrepreneurial education at post-school stage	35
R&D Transfer	18
Commercial and legal infrastructure	11
Internal market dynamics	15
Internal market burdens or entry regulation	12
Physical infrastructures	12
Cultural and social norms	6

Considered globally, the UAE entrepreneurial ecosystem is relatively strong compared to other economies. Moreover, while some of the conditions have improved dramatically over the last years such as governmental programs and cultural and social norms, others have improved to a lesser degree such as school entrepreneurial education. Governmental support and policies, internal market openness and physical services infrastructure and R&D transfer have only exhibited incremental improvement. However, the ecosystem is slipping in several critical conditions such as financing for entrepreneurs, post-school entrepreneurial education and training, commercial and professional infrastructure, internal market dynamics and taxes and bureaucracy. Further attention must be paid to correct this trend and get a better context to foster qualified entrepreneurship.

Finally, one must also recognise the impact of the oil crisis, geopolitical turbulence, and macroeconomic deterioration to fully understand the reasons for this evaluation. Similarly, one should highlight the tremendous efforts the country is putting to move towards a knowledge-based economy. The country is a laboratory of future acceleration, with a clear and unique leadership vision, supported by strong transformation plans and effective initiatives to prepare the younger generations to embrace new challenges and to have the most advanced solutions.

RECOMMENDATIONS

The aim of this report is to inform policy makers and quadruple helix stakeholders at national level (academia, business sector, government and civil society) about the multidimensional nature of entrepreneurship around the world and more specifically in the UAE. Leveraging these findings, it is possible to extend our knowledge about entrepreneurship in the UAE and guide evidence-based policy decisions, both of which will help to create a nourishing environment for entrepreneurship to thrive. Our recommendations recognize the importance of adopting a holistic approach and involving a variety of stakeholders in facilitating the creation of an enabling environment for entrepreneurial activity to flourish.

1. Our policy recommendations focus on regulatory reforms to reduce fear of failure mainly for non-Emirati expat entrepreneurs, and to make it easier for entrepreneurs to set-up and operate a business in the UAE. Also, the alleviation of regulatory burdens and targeted financial support are needed to help realistic high-medium growth entrepreneurs thrive. Incentives should be used to attract more financing actors and to create the required dynamic and conditions to support invention, market opportunity identification and innovation, calculated risk-taking, business creation, consolidation and growth in sectors with high technological intensity. We also call on policy makers to find ways for the public sector to provide the effective support structures, personnel and programs to help potential entrepreneurs better spot opportunities. This should help increase the level of TEA in the next years, and with adequate targeting of specific areas, will support the shift towards a knowledge economy driven by quality of growth. Nascent and new businesses need more structured programs that help them survive the competition and the liability of newness. For instance, effective acceleration programs focus should not be on indicators related to fundraising but rather on increasing and sustaining sales. Finally, attention should be given to the efficiency of the strategies, policies and government related investment. For that purpose, impact assessment should be carried out to understand to what extent and how the policy intervention corrects the problem it was intended to address.
2. For quadruple helix stakeholders in the UAE (academia, business sector, government and civil society), we recommend first engaging in multiple roles and integration dynamics that generate new institutional and social frameworks. Universities should become “entrepreneurial universities” by putting in place structures and programs to productize inventions through start-ups creation or other commercialization solutions. Industry should finance innovation and should develop some academic characteristics, exchanging knowledge and training and developing employees internally to promote intrapreneurship. All the components of the helices model should be continuously involved in identifying and supplying individuals who perceive themselves as potential entrepreneurs. For that specific purpose, it becomes crucial to enhance diversity and to mix talents who are increasingly coming to the UAE with local entrepreneurs. This requires building a “nutrient-rich” environment, which provides information and tacit knowledge and more tangible resources. This environment should also provide cultural and social support. Creating a new mind-set is key. For that specific purpose, it becomes crucial to enhance diversity and to mix talents who are increasingly coming to the UAE. Having the best entrepreneurial teams that combine knowledge, skills, networks, and risk-taking aptitude to start a business will be effective in creating an entrepreneurial mind-set across the country.
3. We also call upon quadruple helix actors to intensify formal and informal collaboration and partnerships for an effective knowledge creation and transfer in the priority sectors of the National Innovation Strategy for the benefit of the community. This dynamic should support an increase in the proportion of innovative entrepreneurs who are more likely to innovate “vertically”. Creating open-innovation spaces, events, and supporting institutions, could give rise to new preferences and new opportunities, bringing problems owners and solvers together, as well as creating testbeds and markets. Consequently, science and technology parks related to universities should be established to attract and strengthen linkages between academia and industry and among foreign and domestic knowledge-intensive firms. Clusters and business hubs with centralised resources should be created to reduce the cost of basic services and other professional, commercial and legal services borne by technology start-ups, which might also increase their competitiveness. These collaborative platforms should offer a protected and safe environment to innovate so they can create new niches with less competition. Universities should develop more programs to support inventors to take their ideas to market. Effective governmental agencies and programs aimed at intellectual property commercialization should be promoted. To enable these new science parks and clusters to flourish, vocational training is key to support regional development linked to the country strategic areas of innovation. Introducing vocational and technical training aimed to preparing skilled technical workforce complements the educational landscape and makes the region more attractive for foreign investment. Moreover, supporting individuals with no university education through the provision of relevant business and management education or training programs is key to reinvigorate regional dynamism. These individuals have the lowest level of ‘fear of failure’ to start a business and they know more people who personally started a business in the past 2 years. They are also more willing to start a new business in the area where they live compared to more educated people. These forms of businesses will support high-tech industries to establish in a region.

INTRODUCTION TO GEM



The Global Entrepreneurship Monitor (GEM) is a worldwide study of entrepreneurship. Started in 1997 by two academics, one from London Business School (Michael Hay) and the other from Babson College (Bill Bygrave) in the United States, the GEM was launched as there was no recognized international research that focused on entrepreneurship, with the word was not a recognized household name as it is today. The relevance of entrepreneurship was slowly emerging as academics and policy makers recognized the importance of small, medium and micro-sized enterprises development to the overall well-being of an economy, towards decreasing the levels of unemployment, and in fighting the abject poverty which at that time prevailed in many developing, third world countries.

The first published reports came out in 1999 and involved just 10 economies, eight from the OECD, Japan and the United States. Now 18 years later, the Consortium of GEM countries has grown substantially to where over 100 economies have participated from all levels of economic development and in almost all geographic regions. In 2016, 66 economies participated in the GEM study, comprising approximately 69.2% of the world's population and 84.9% of the world's total GDP. GEM can now claim to be truly global and to be the most authoritative and informative study on entrepreneurship in the world today. Only a few areas of the globe are not represented such as certain countries in mid/central Asia, a few countries in South East Asian and some from West and Central Africa. The economies that participated in the 2016 GEM cycle are shown in Figure 1. They are classified by region and according to their economic development level, following the World Economic Forum classification into factor-driven, efficiency-driven and innovation-driven economies.

The regional classification is adapted from the United Nation's composition of the world's macro geographical regions.¹ According to the World Economic Forum's classification, factor-driven economies are dominated by subsistence agriculture and extraction businesses, with a heavy reliance on (unskilled) labour and natural resources. Efficiency-driven economies are more competitive with more-efficient production processes and increased product quality. As development advances economies can emerge to become innovation-driven, where businesses are more knowledge-intensive, and the service sector expands.²

¹ <http://unstats.un.org/unsd/methods/m49/m49regin.Htm>

² <http://weforum.org>



To answer these questions, GEM developed a conceptual framework that captures the relationships between entrepreneurship and national development. During the last 18 years, this conceptual framework and the basic definitions have evolved gradually without compromising the comparability of the collected information, but bringing more clarity to assumed relationships. This process was supported by the work of several researchers who, using GEM data, contributed to building an entrepreneurship paradigm (Alvarez et al., 2014, Bosma, 2013, Levie and Autio, 2008).

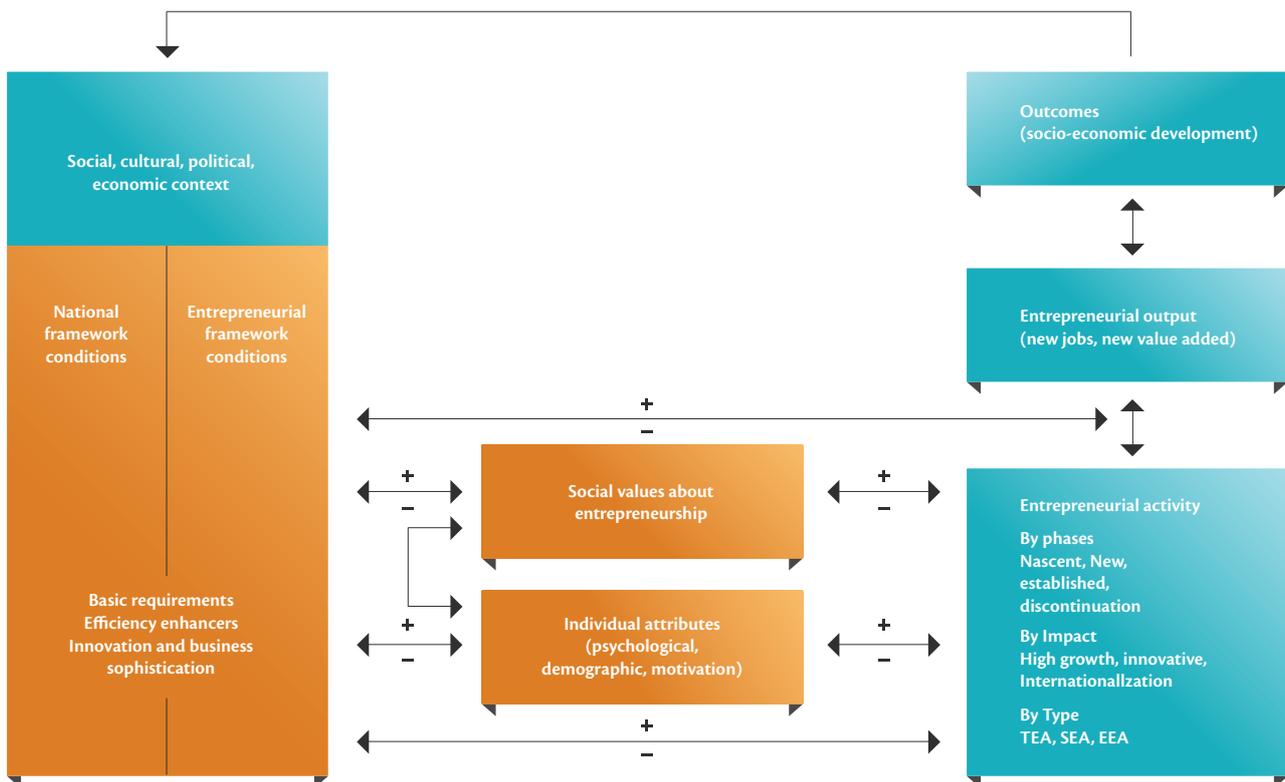
Today, the GEM conceptual framework remains aligned with its original key objectives:

- To allow for comparison of levels of entrepreneurial activity among different countries, geographic regions and economic development levels;
- To determine the extent to which entrepreneurial activity influences economic growth within individual economies;
- To identify factors which encourage and/or hinder entrepreneurial activity (especially the relationships between national entrepreneurship conditions, social values, personal attributes and entrepreneurial activity);
- To track entrepreneurial attitudes, activity and aspirations within countries to provide annual national assessment of the entrepreneurial sector;
- To guide the formulation of effective and targeted policies aimed at enhancing entrepreneurial capacity within individual countries.

The GEM conceptual framework also highlights why GEM is different from most current studies on entrepreneurship: it does not just look at businesses but also at individuals, their attributes, aspirations, attitudes, perceptions and intentions. It looks at what makes them think and do, and not just do, as these indicators play an important part in the entrepreneurial pipeline moving from potential, to intentional to those entrepreneurs who actually start a business and those that become fully established and growing.

The GEM conceptual framework (Figure 2) derives from the basic assumption that national economic growth is the result of the personal capabilities of individuals to identify and seize opportunities, and that this process is affected by environmental factors which influence individuals' decisions to pursue entrepreneurial initiatives. Entrepreneurial activity is thus an output of the interaction of an individual's perception of an opportunity and capacity (motivation and skills) to act upon this and the distinct conditions of the respective environment in which the individual is located. In addition, while entrepreneurial activity is influenced by the framework conditions in the particular environment in which it takes place, this activity ultimately benefits this environment as well, through social value and economic development. For example, entrepreneurs create jobs for themselves and others, which create income for families. They develop new products that improve people's lives, and advance the knowledge and competitiveness of their societies.

Figure 2: The GEM Conceptual Framework



The components of the GEM conceptual framework are as follows:

Social, cultural, political, and economic context is represented through national framework conditions and entrepreneurial framework conditions, which are conceptualized as influencing entrepreneurial activity more directly. The National Framework Conditions are defined according to the twelve pillars of competitiveness³ derived from the World Economic Forum's Global Competitiveness Index, which impact the advancement of society through three phases of economic development (factor-driven, [transition through institutions], efficiency-driven, [transition through people] and innovation-driven). The entrepreneurial framework conditions consist of entrepreneurial finance, government policy, government entrepreneurship programs, entrepreneurship education, Research and Development (R&D) transfer, commercial and legal infrastructure, internal market dynamics and entry regulation, physical infrastructure, and cultural and social norms.

Societal values about entrepreneurship includes aspects such as the extent to which society values entrepreneurship as a good career choice; whether entrepreneurs have high societal status; and the extent to which media attention to entrepreneurship is contributing to the development of a positive entrepreneurial culture.

Individual attributes include different demographic factors (such as gender, age, geographic location); psychological factors (including perceived capabilities, perceived opportunities, fear of failure); and motivational aspects (necessity versus opportunity based ventures, improvement-driven ventures).

Entrepreneurial activity encompasses multiple phases of the business process (nascent, new business, established business, discontinuation), potential impact (job creation, innovation, internationalization), and the type of activity (total early-stage entrepreneurial activity (TEA), social entrepreneurial activity (SEA) or employee entrepreneurial activity (EEA)).

Over the years, GEM surveys have confirmed that the level of entrepreneurial activity varies among countries at a fairly constant rate. A crucial point confirmed by GEM research is that it takes time and consistency in policy interventions in order to enhance and develop the factors, which contribute to entrepreneurial activity. Surveys have also confirmed that entrepreneurial activity in different forms (nascent, start-up, employee entrepreneurship), is positively correlated with economic growth, but that this relationship differs according to phases of economic development (Acs and Amorós, 2008; Van Stel et al., 2005; Wennekers et al., 2010).

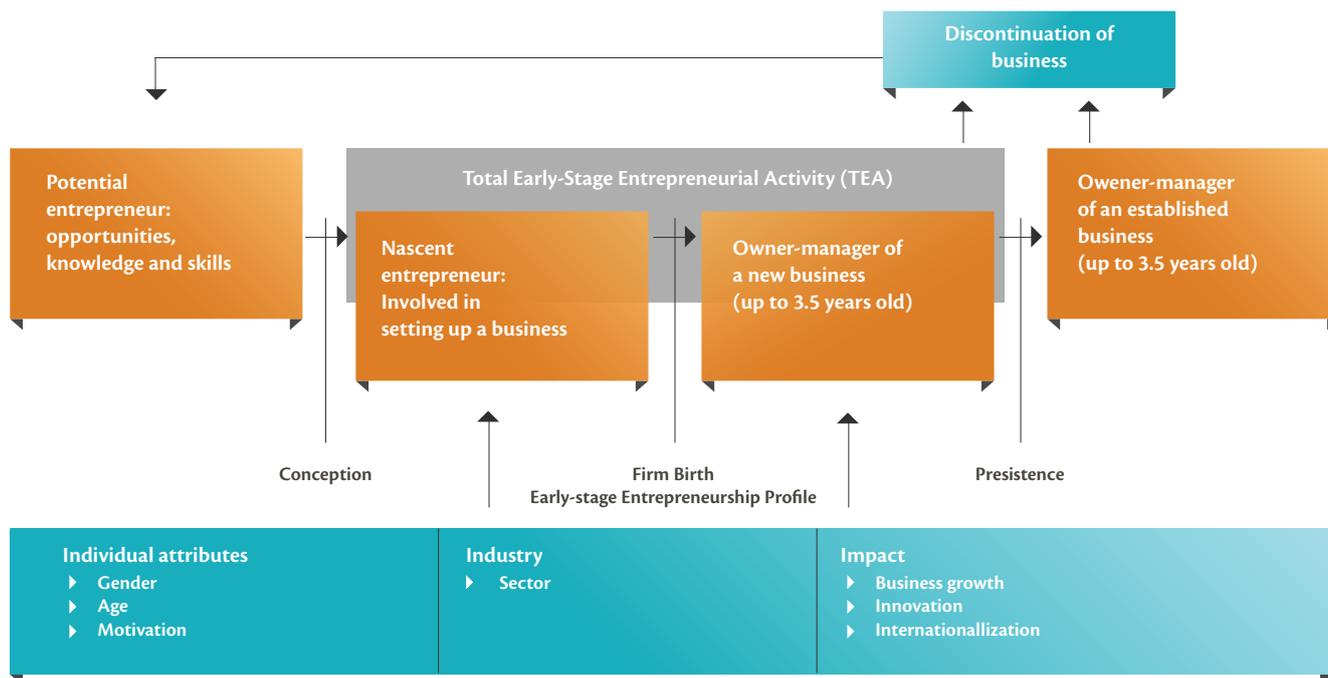
GEM's role as one of the world's leading research consortia concerned with improving the understanding of the relationships between entrepreneurship and national development is confirmed by recent policy interventions around the world. These are focused on components of the GEM conceptual framework: environment (entrepreneurial framework conditions), individual capacity for identifying and exploiting opportunities, and society's capacity to develop an entrepreneurial culture. In a recent report on entrepreneurial ambition and innovation jointly published by GEM and the WEF, Drexler and Herrington (2015) highlight the cases of Colombia and Chile, economies that have put in place several public and private initiatives to enhance their entrepreneurial ecosystems (Drexler and Amorós, 2015).

³ The twelve pillars are: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation. To calculate the competitiveness index, these pillars are in turn organized into three sub-indexes: basic requirements, efficiency enhancers, and innovation and sophistication factors. The three sub-indexes are given different weights in the calculation of the overall Index, depending on each economy's stage of development, as proxied by its GDP per capita and the share of exports represented by raw materials.

GEM MODEL OF BUSINESS PHASES AND ENTREPRENEURSHIP CHARACTERISTICS

One of the principal goals of GEM is to provide detailed information about the results of entrepreneurial activity across countries. GEM understands entrepreneurial activity as the core of a complex process (see Figure 3 below) that begins with individuals' or groups of individuals' entrepreneurial intention and that continues with successive phases of effective business start-up (nascent activity), business consolidation (new or baby activity), business development and persistence (established activity), and business discontinuation (activity exited from the market).

Figure 3: How GEM measures entrepreneurship: Business phases



Source: GEM Global Report 2017

GEM measures individual participation across multiple phases of the entrepreneurial process, providing insights into the level of engagement in each stage, the characteristics of individuals involved and types of entrepreneurial activities. This is important because societies may have varying levels of participation at different points in this process; however, a healthy entrepreneurial society needs people active in all phases. For example, to have start-ups in a society, there must be potential entrepreneurs. Later in the process, people that have started businesses must have the ability and the support to enable them to sustain their businesses into maturity.

GEM's individual-level focus enables a more comprehensive account of business activity than firm-level measures of formally registered businesses. In other words, GEM captures both informal and formal activity. This is important because in many societies, most entrepreneurs operate in the informal sphere. In addition, GEM's emphasis on individuals provides an insight into who these entrepreneurs are: for example, their demographic profiles, their motivations for starting ventures, and the ambitions they have for their businesses. GEM also assesses broader societal attitudes about entrepreneurship, which can indicate the extent to which people are engaged in or willing to participate in entrepreneurial activity, and the level of societal support for their efforts. The GEM database allows for the exploration of individual or business characteristics, as well as the causes and consequences of new business creation.

OPERATIONAL DEFINITIONS

GEM multi-phase measures of entrepreneurship are given in Figure 4 below.

Figure 4: GEM Multi-phase measures of entrepreneurship & operational definitions



GEM METHODOLOGY AND INSTRUMENTS (APS & NES)

GEM data is gathered on an annual basis from two main sources. The GEM surveys consider the interdependency between entrepreneurship and economic development to:

- Uncover factors that encourage or hinder entrepreneurial activity, especially those related to societal values, personal attributes, and the entrepreneurship ecosystem;
- Provide a platform for assessing the extent to which entrepreneurial activity influences economic growth within individual economies;
- Uncover policy implications for enhancing entrepreneurial capacity in an economy.
- All GEM participating countries use similar research design, survey questionnaires and data collection methodology, to ensure consistency and comparability of the data. GEM report is based on two main surveys: the Adult Population Survey (APS) and the National Expert Survey (NES).

ADULT POPULATION SURVEY (APS)

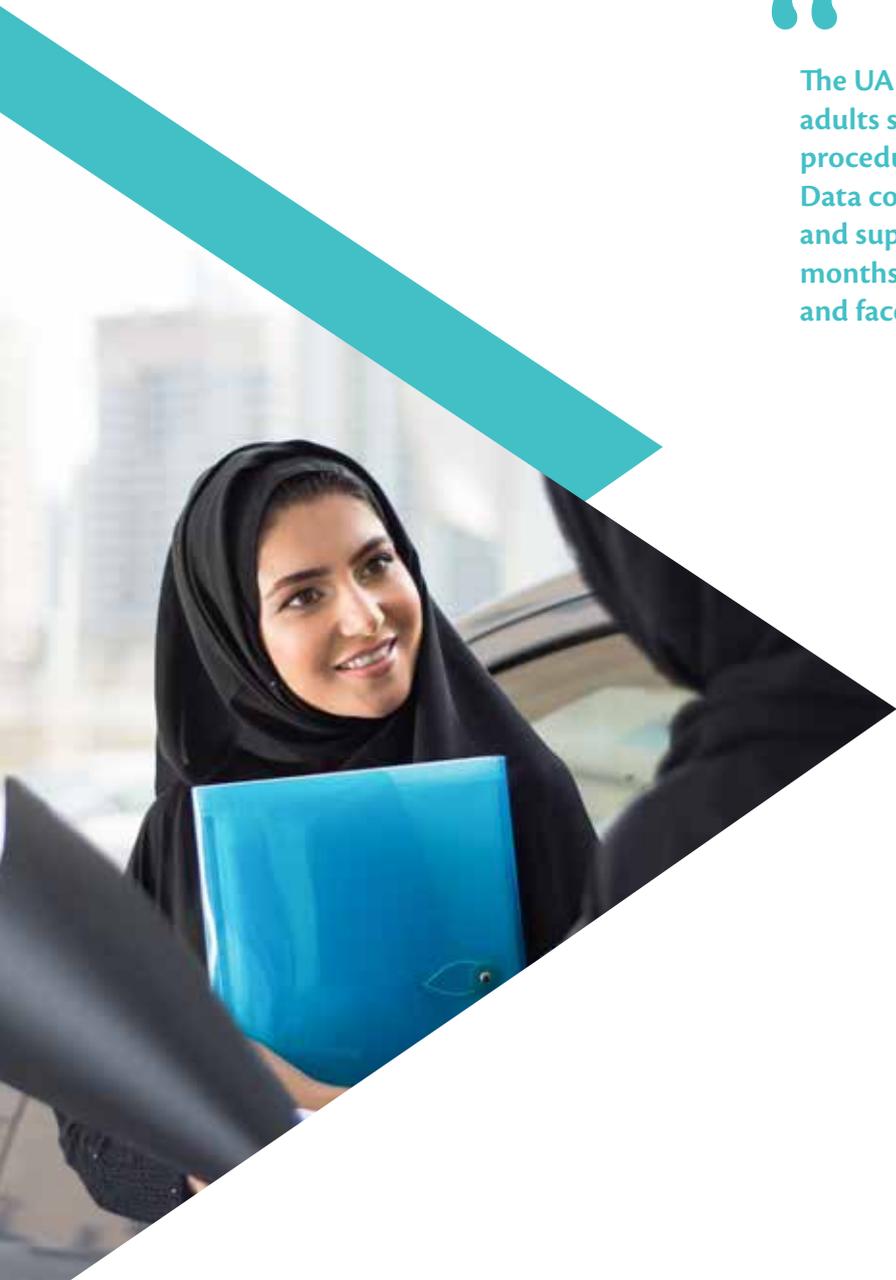
To provide a comprehensive view of entrepreneurship across the globe, GEM research teams in each participating economy collect primary data through an Adult Population Survey (APS). Academic teams in each participating economy administer and oversee this survey, which is conducted using a random representative sample of at least 2,000 adults between the ages of 18 and 64 years. The surveys are conducted at the same time every year (between May and July) using a standardised questionnaire provided by the GEM Global Data Team. The questionnaire is translated into local languages, and back-translated for a validity check.

To ensure that the sample is representative, area stratified probability sampling is used. The sample is stratified by gender, age and population group, then by region and community size. Cities and large towns, small towns and villages, and even rural areas are additionally assessed in some economies. Accredited research companies in each economy conduct the survey. Upon completion of the survey in each economy, the raw data is sent to the Global Data Team for quality control checks and uniform statistical calculations. GEM global team uses a research design that harmonises the data over all participating economies to provide for reliable comparisons across economies. The data are then released to the participating economies for analysis and interpretation, and, ultimately, to be utilised in the compilation of annual national reports. Results for the entire dataset are released in a global executive report, which is launched each January or February at the GEM annual meeting. The APS methodology was developed to measure entrepreneurial activity in a way that allows for meaningful cross-national analyses each year, as well as intra-country comparisons over time.

“

The UAE 2016 APS sample was composed of 2,000 adults selected following the strict sampling procedure by GEM and its data quality standards. Data collection was conducted by Top Level Mena and supervised by Opinometre, Spain during the months of May-July 2016 using mobile phones (50%) and face-to-face interviews (50%).

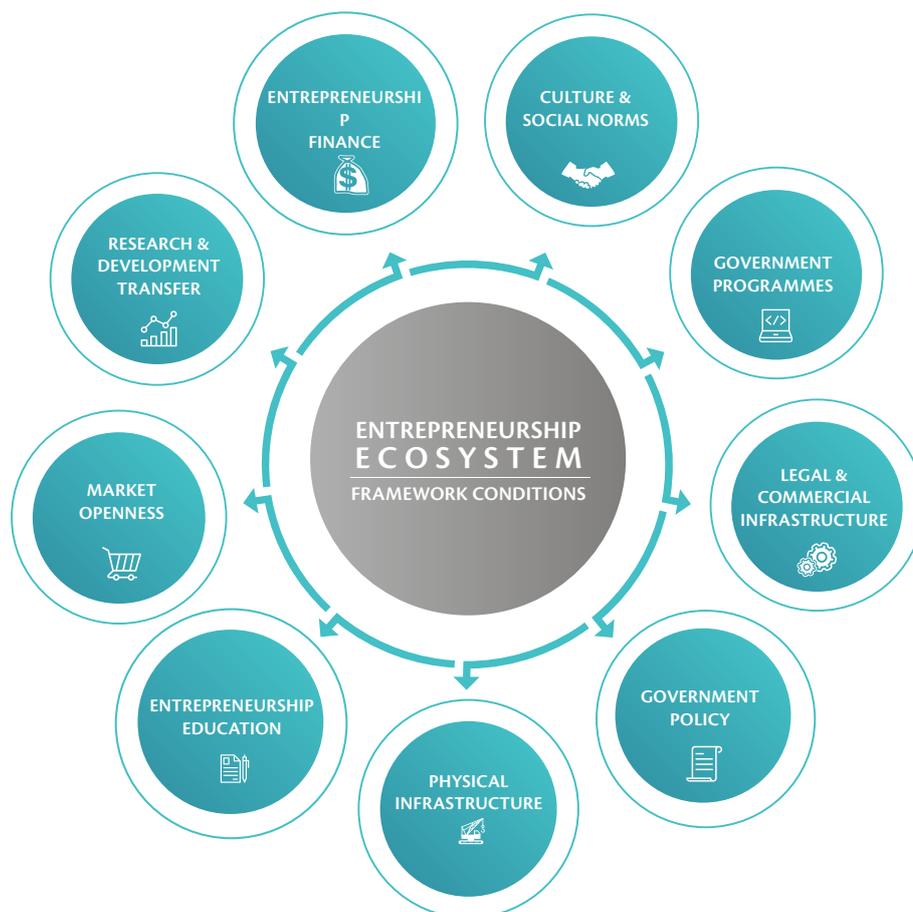
”



NATIONAL EXPERT SURVEY (NES)

Complementing the APS is a National Expert Survey (NES), which gathers in-depth opinions from selected national experts about the factors that have an impact on the entrepreneurship ecosystem in each economy. The information is also used to add context to country-specific GEM reports and to help explain the relationship between entrepreneurial activity and economic growth. At least four experts from each of the entrepreneurial framework condition categories (Figure 5 below) must be interviewed, making a minimum total of 36 experts per country.

Figure 5: GEM entrepreneurship ecosystem conditions framework



To construct a balanced and representative sample, the experts are drawn from entrepreneurs, government, academics, and practitioners in each economy. A minimum of 25% must be entrepreneurs or business people, and 50% must be professionals. Additional aspects such as geographical distribution, gender, involvement in the public versus private sector, and level of experience should also be considered when balancing the sample. Table 2 below shows the list of UAE experts interviewed in 2016.

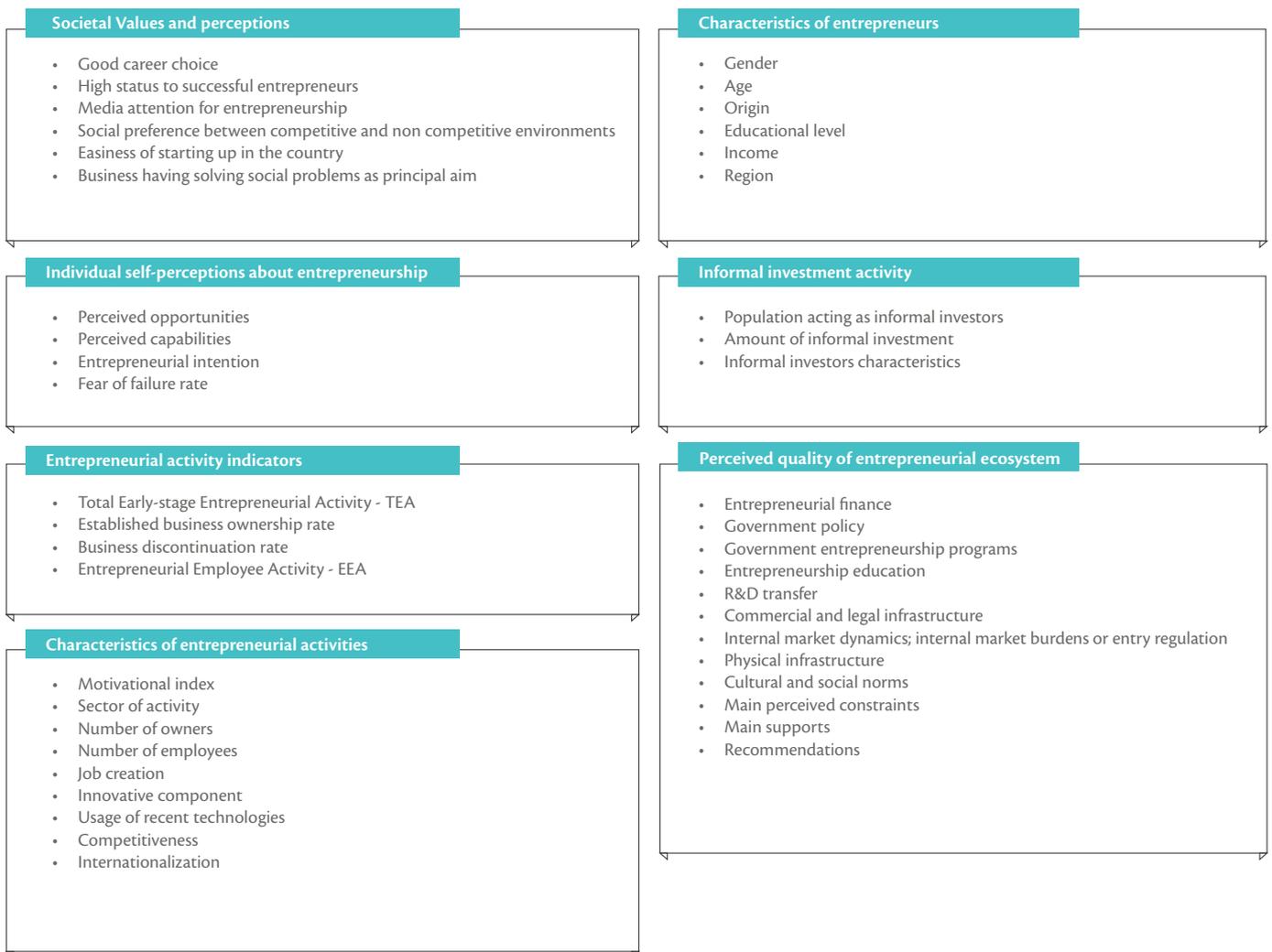
Table 2: List of UAE national experts in 2016

FINANCE	1	Fadi Ghandour	Chairman and managing partner of Wamda Capital
	2	Shaikha Al Naqbi	Mashreq Bank, AD Corporate Division, Vice President & Senior Relationship Manager
	3	Heather Henyon	Women's Angel Investor Network founder & Director of Athena CFO
	4	Nizar Cheniour	Khalifa Fund, Director of Innovation and Special Projects Department
GOVERNMENT POLICIES	5	H.E. Ahmed Belhoul	Minister of Higher Education
	6	H.E. Abdul Basset Al Janahi	CEO of Dubai SME
	7	Irfan Al Hasani	Editor in Chief, Corporate Communication at Dubai Economic Council
	8	H.E. Marwan Al Serkal	CEO, Sharjah Investment and Development Authority "Shurooq"
GOVERNMENT PROGRAMS	9	PK Gulati	Founder, the Assembly, Board member In5
	10	Clare Woodcraft	CEO, Emirates Foundation
	11	Khalil Haddad	Director – Strategy & Corporation Development, Dubai Chamber
	12	Najla Al Midfa	General Manager, Sharjah Entrepreneurship Center, Sheraa
EDUCATION & TRAINING	13	Ramesh Jagannathan	Research Professor and Associate Dean of Engineering, NY University
	14	Najwa Al Hossani	Curriculum Division Manager, ADEC
	15	H.E. Ghaleb Al Hadrami	DVC Research & Graduate Programs UAEU
	16	H.E. Reyad Al Muhaideb	Vice President, Zayed University
R&D TRANSFER	17	Trevor McFarlane	Founder & Chief Executive, Emerging Markets Intelligence & Research
	18	H.E. Badr El Olama	CEO Strata
	19	Adeeb Alafeefi	Director, Foreign Trade & Export Support at Abu Dhabi Department of Economic Development
	20	Iradj El Qalqili	Head Corporate Strategy and Performance Management, MASDAR
MARKET OPENNESS	21	Mohamed al Mafiah	VP of ADNOC Distribution HSE
	22	Abdulrahman Alshaieb	Director General, Ras Al Khaimah chamber of commerce and industry
	23	Alessandro Ayach	Consulting Manager & PMO Leader Europe Middle East & Africa HTS Healthcare Transformation Services, Philips
	24	Mortada Mohamed Alzaylaie	Excellence Advisor, Sharjah Commerce and Tourism Development Authority
PHYSICAL INFRASTRUCTURE	25	Dr. Yahya Al Marzouqi	Executive Director, Project Management Office at Tawazun; Ex chairman of the Executive Committee of Tawteen program
	26	Firas Raai	Head of Business & Products Development - SME Business Banking at Abu Dhabi Islamic bank
	27	Abdulaziz Shattaf	Director of Sharjah export development center - Sharjah Chamber of commerce & industry
	28	Rashed Salem Saif Mohamed Al Qubaisi	Department of Economic Development, Manager of Trade Licenses
LEGAL AND COMMERCIAL	29	Omar Obeidat	Partner and Head of Intellectual Property at Al Tamimi & Co.
	30	Joanna Truffaut	Director Digital EMEA Advisory Ernst & Young
	31	Sultan Mohamed Rashed Al Nuaimi	Director of Organizational Excellence and Communication, Ajman Custom
	32	Sara Al Mazrouei	Contracts Manager, FERTIL
CULTURAL AND SOCIAL NORMS	33	Dr. Emilie Rutledge	Associate Professor, UAEU
	34	Dr. James Piecowye	ZU and ZUE/Dubai Eye
	35	Dr. Peter Hatherley-Greene	Nationalisation specialist, writer, trainer, coach and Founder of Emarise provider of expertise on Emiratization
	36	Abdulla Al Humaidan	Executive Director of Human Resources Authority (HRA) in AD (it replaces Tawteen Council), board member of Zayed Higher Organization

DASHBOARD OF GEM INDICATORS

This report features a detailed review of key entrepreneurship indicators for the UAE covering all the topics described in the conceptual framework. GEM Global and National Reports do the same for each participating economy, giving them a ranking on every indicator. Overall, this group of indicators may be viewed as a dashboard representing a comprehensive set of measures that collectively contribute toward the impact entrepreneurship has on a society and the extent to which society supports this activity. Highlighted in the report are, among others, the following measures (see Figure 6 below):

Figure 6: GEM major indicators



SUMMARY OF THE GLOBAL REPORT 2016/17

GEM countries in the 2016 survey cover 69.2% of the world’s population and 84.9% of the world’s GDP. The Global Report features a page of results on each participating economy; with numbers and rankings on key GEM indicators from the APS as well as an assessment of ecosystem factors (based on the NES). It also contains data tables of the GEM indicators, by economy and region. Table 3 below summarizes the key findings:

Table 3: Global report 2016/17 key findings

COMPONENT	FINDINGS	HIGHEST LOWEST
SOCIETAL VALUES ABOUT ENTREPRENEURSHIP	More than two-thirds of the global adult population believes that entrepreneurs are well regarded and enjoy high status within their societies	The most positive attitude towards entrepreneurship is in Africa (three-quarters of working-age adults considering entrepreneurship a good career choice) while 77% believe that entrepreneurs are admired in their societies
		The lowest proportion of adults believing that entrepreneurs are highly regarded is in Latin America and the Caribbean In Europe, only 58% believe entrepreneurship is a good career
SELF-PERCEPTIONS ABOUT ENTREPRENEURSHIP	42% of working-age adults see good opportunities for starting a business in their area. 22% of the people surveyed expressed an intention to start a business in the next three years	Highest entrepreneurial intention in Africa (42%) Highest capability perception in Latin America and the Caribbean (63%) Europe Less than 40% perceive opportunities in their area Less than 50% believe they have the skills to pursue entrepreneurial opportunities
TYPES OF ENTREPRENEURIAL ACTIVITY	TEA rates differ across regions and economic development groups GEM average TEA rate is 12.3%	Group of Economies: Highest TEA in the factor-driven group of economies (17%) Regions: Latin America and the Caribbean and Africa have the highest TEA rates (about 20%)
	Established business ownership The ratio of established businesses to start-ups: • 60% in the factor and efficiency-driven economies • 80% in the innovation-driven group of economies	Lowest TEA in innovation-driven economies (9%) Europe has the lowest TEA rate (close to 10%) Burkina Faso: 66% of working-age adults are starting-up (TEA) or running their own businesses
	Entrepreneurial Employee Activity is different across economic development groups	Substantial in innovation-driven economies: more than half the average TEA level in this group Highest in North America (6.5%) Negligible in the factor and efficiency-driven economies Lowest in Africa (1%)
	Business discontinuation is different across economic development groups 30% of business discontinuance is due to a lack of business profitability in all regions and economies In innovation-driven economies less than 30% of discontinuance is due to a more positive exit reasons such as sale, retirement, pre-planned exit or pursuit of another opportunity	Business discontinuation in the factor and efficiency-driven economies (6%) Business discontinuation in innovation-driven economies (3%)

MOTIVATION FOR EARLY-STAGE ENTREPRENEURIAL ACTIVITY	About 75% of respondents in the 2016 survey stated they chose to pursue an opportunity as a basis for their entrepreneurial motivations.	<p>Opportunity motivated entrepreneurs in the innovation-driven economies (79%) Improvement-driven opportunity (IDO) entrepreneurs (4 times) Finland and Sweden IDO (10 times)</p> <p>Opportunity motivated entrepreneurs in the factor-driven economies (about 66%) Improvement-driven opportunity (IDO) entrepreneurs (1.2 times)</p>
JOB CREATION	<p>The three economic groups are similar in terms of the proportion of entrepreneurs who do not anticipate creating any jobs in the next five years.</p> <p>However, in terms of medium-to-high growth entrepreneurs (i.e. those projecting to employ six or more people in the next five years) the differences are more distinct (25% in innovation-driven economies / 20% in the other groups)</p>	<p>North America has the highest proportion of medium-to-high growth entrepreneurs (25%)</p> <p>Latin America and the Caribbean has the lowest proportion of medium-to-high growth entrepreneurs (17%)</p>
INNOVATION	Entrepreneurs in innovation-driven economies are considerably more innovative, with a third regarding their products as new to the market and within their respective industries.	<p>Highest innovation intensity in North America (39%) Belize is ranked 3rd for a high TEA coupled with robust level of innovation</p> <p>Lowest innovation intensity in Africa (20%)</p>
INDUSTRY SECTOR ENTREPRENEURS' CHARACTERISTICS	<p>Entrepreneurs in wholesale or retail sector in factor-driven economies (50%) innovation-driven economies (33%)</p> <p>Entrepreneurs in information and communications, financial, professional and other services in innovation-driven economies (46%) the other groups (23%)</p>	<p>Latin America and the Caribbean have the highest level of entrepreneurs in wholesale or retail sector (58%) North America has the highest level of entrepreneurs in technology, financial, professional and other services (54%) Africa has the highest level of entrepreneurs in the agricultural sector (13%)</p>
ENTREPRENEURSHIP ECOSYSTEM	<p>Innovation-driven economies ecosystems are the strongest.</p> <p>Overall, physical infrastructure was rated the most positive condition of the entrepreneurship ecosystem (rating above 6)</p> <p>The weakest condition, with average values below 4, was school-level entrepreneurship education.</p>	<p>Switzerland reports among the ten highest values in the sample for 11 of the 12 conditions assessed. United Arab Emirates reports among the 10 highest values in the sample for 7 of the 12 conditions assessed along with Finland, just after Switzerland (11) and the Netherlands (10) and before France (6). United Arab Emirates ranks 3rd for government policies (support and relevance) after Korea and France, 4th for government policies (taxes and bureaucracy) after Hong Kong, Georgia, Estonia and the Netherlands and 6th for government entrepreneurship programs after Austria, Switzerland, Germany, Luxembourg and the Netherlands.</p> <p>Constraining entrepreneurship factors are:</p> <ul style="list-style-type: none"> • In factor-driven economies: R&D transfer, entrepreneurial finance and internal market burdens/ entry regulations • In efficiency-driven economies: R&D transfer, government policy, and taxes and bureaucracy <p>United Arab Emirates has the highest fear of failure rate (54%) in the world.</p>



INTRODUCTION TO THE REPORT

CONTEXT: THE UAE IN BRIEF

Situated in the Southeast of the Arabian Peninsula, bordering Oman and Saudi Arabia, the United Arab Emirates became in December 1971 a federation of six emirates - Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al-Quwain, and Fujairah, while the seventh emirate, Ras Al Khaimah, joined the federation in 1972. The capital city is Abu Dhabi, located in the largest and wealthiest of the seven emirates.

The UAE has grown rapidly from an economy dependent on fishing and a declining pearl industry to one of the Middle East's most important economic hubs and one of the wealthiest countries on a per capita basis with a GDP estimated in 2016 at 375 billion and a real GDP growth rate of around 2.3%.⁴ The UAE is now noted for its open economy with a high per capita income (\$67,700 of GDP per capita in 2016),⁵ a highly developed welfare system, one of the lowest rates of unemployment in the Middle East (3.6%), its modern infrastructure, the international events it hosts, its status as a trade, tourism and transport hub and its sizable annual trade surplus.

Since the 1960s, when oil exports began, the country has undergone a profound transformation from an impoverished region of small desert principalities to a modern state with a high standard of living. In 2015, the UAE has 6% of the world's proven crude oil reserves with 97,800 million barrels and the seventh largest proven natural gas reserves with 6,091 billion cu. m. Petroleum exports were US\$52 billion in 2015 compared to US\$126 billion in 2014.⁶

Since the establishment of the union, the UAE government spending on job creation and infrastructure expansion has steadily increased. With the political and economic stability of the country, the UAE attracted in 2015 US\$13 billion (a 25% increase on 2014) of foreign investment, with many investors fleeing the revolutions of the 'Arab Spring'. The bulk of FDI is concentrated in the sectors of hydrocarbons, water and electricity production.⁷ The country's free trade zones that offer 100% foreign ownership were instrumental in helping attract these foreign investors by offering full ownership and zero taxes. Today, the UAE counts 44 free zones, 27 of them in Dubai.⁸ Another important factor that helps attract foreign investors is the ease of doing business in the UAE, which ranked 34th out

⁴ <http://pubdocs.worldbank.org/en/398801475460803726/UAE-MEM-Fall-2016-ENG.pdf>

⁵ <https://www.cia.gov/library/publications/the-world-factbook/geos/ae.html>

⁶ http://www.opec.org/opec_web/en/about_us/170.htm

⁷ https://www.nordeatrade.com/se/explore-new-market/united-arab-emirates/investment?&accepter_cookies=oui

⁸ <http://www.uaefreezones.com>

⁹ <http://www.doingbusiness.org/data/exploreconomies/united-arab-emirates>

of 190 countries in the 2016 Doing Business ranking published by the World Bank.⁹ Absence of direct business taxation (excluding banks, oil companies and telecommunications operators) and direct income taxation, of exchange controls and of any limitations on the repatriation of capital, as well as the existence of a strong and profitable banking sector, plus a large pool of expatriate labour are another undeniable factors to attract foreign investment. The main weakness is the small size of the country domestic market.

One of the major challenges facing the country today concerns the large expatriate workforce. Although it represents a source of cultural diversity that underpins the open and tolerant UAE model which supports creativity and innovation, the UAE population of 9.2 million (2016) depends substantially on its expatriate workforce of approximately 80% of the population. Moreover, 95% of the private-sector workforce is made up of expatriates while more than 90% of UAE nationals work in government or government-related activities. Job security and high pay in the public sector for nationals is a major impediment to entrepreneurial risk-taking and private sector employment. Labour market policies are closely intertwined with migration policies, which fall within the main responsibility of the federal government. Labour market policies in the UAE have recently had two main objectives: 1) attracting foreign workers to fulfil gaps in the labour market across all spectrums of industry; 2) protecting jobs for UAE nationals through so-called Emiratisation policies (OECD, 2016). A reform of labour admissions policies was suggested for private sector job creation since under the current sponsorship system expatriate labour mobility is limited, leading to large-scale importation of expatriate workers, wages below marginal productivity and lower incentives to upgrade skills. This in turn negatively affects productivity, technology choice, and contributes to making nationals uncompetitive in the private sector.¹⁰

Another important challenge is the country dependence on oil even though this trend is decreasing with economic diversification. Although the UAE has shown certain resilience with regards to the falling oil prices due to its sufficient assets to cover its deficits with money from its sovereign investment funds, the government was prompted to take steps to reduce its social spending. Since 2015, the authorities have initiated a series of measures, such as the reform of energy subsidies, which included a deregulation of domestic oil prices and an increase in tariffs for electricity and water. Additional fiscal measures are under consideration, such as the introduction of business taxation and the 2018 VAT.

To face these challenges, UAE Vision 2021 “United in Ambition and Determination” was launched in 2010 to make the UAE among the best countries in the world to live, work, and do business. To translate the vision into reality, four pillars (United in Responsibility, Destiny, Knowledge and Prosperity) were identified and mapped to six national priorities (Cohesive Society & Preserved Identity, Safe Public & Fair Judiciary, Competitive Knowledge Economy, First-Rate Education System, World-Class Healthcare and Sustainable Environment & Infrastructure). Transforming the economy into a competitive knowledge-based economy is one of the six priorities identified in the agenda; it places a strong emphasis on promoting innovation, research and development (R&D), strengthening the regulatory framework for key sectors, and encouraging high value-adding sectors. In addition, the agenda aims to make the UAE among the best countries in the world for entrepreneurship, encouraging UAE Nationals to be the driving force of economic development through small, medium enterprises (SMEs) and increased participation rates in the private sector. The UAE government has increased spending on job creation mainly for nationals accordingly. The government also focuses on improving education and increasing private sector employment. Moreover, the UAE government continues its focus on infrastructure expansion including in preparation for hosting a world expo in Dubai in 2020. For the next years, the UAE intends continuing its focus on economic diversification, which has already reduced the portion of GDP based on oil and gas output to 30%.

¹⁰ <http://pubdocs.worldbank.org/en/398801475460803726/UAE-MEM-Fall-2016-ENG.pdf>

Despite economic pressures, key investment areas have been maintained, evidenced by the recently announced nuclear energy project, which reflects the government vision of sustainability. H.H. Sheikh Mohammed bin Rashid Al Maktoum, Vice President of the UAE, Prime Minister and Ruler of Dubai announced a new energy plan for 2050 which is targeting an energy mix that combines renewable, nuclear and clean energy sources to meet the UAE's economic requirements and environmental goals. Due to its arid climate with high temperatures and infrequent irregular low rainfall, the lack of natural fresh water and desertification (which the country has been trying to counter through major afforestation and greening projects), currently the UAE has the world's largest per capita carbon footprint, due in part to the amount of electricity required for desalination and air conditioning. The UAE committed at the COP22 in Marrakech to 27% clean energy by 2021. Consequently the UAE is at the forefront of the development of renewable energy in the MENA region, with the establishment of The Abu Dhabi Future Energy Company (Masdar), the construction of the world's first carbon-neutral zero waste city, the annual World Future Energy Summit, and the relocation of The International Renewable Energy Agency IRENA's headquarters to Masdar City. Besides its focus on renewable energy generation both for domestic energy needs and in terms of investment abroad, the UAE has also developed a civil nuclear energy program and plans to build four nuclear power reactors by 2020, with the first scheduled to come on-line by 2017. Finally, the UAE will invest DHS 600 billion by 2050 to meet the growing energy demand and ensure sustainable growth of the country's economy.

Further evidence of the commitment to diversification is significant investments of the Emirate of Abu Dhabi in establishing aerospace, nuclear power, defence, information technology (micro-processing) and petrochemical industries. Abu Dhabi is also investing heavily in educational institutions to diversify the economy away from oil and encourage tourism, such as local campuses of the Sorbonne and New York University, and cultural and sporting attractions such as the Formula One racing track, Ferrari theme park, and the Louvre Gallery. The Emirate of Dubai has diversified into the tourism, exhibitions, events, ICT, re-export and financial sectors. Taking advantage of its position near the head of the Gulf, it has consolidated its historical reputation as a regional entrepôt. Dubai has developed luxury hotels, large port facilities (including Jebel Ali) and a range of free trade zones to attract both manufacturing and services industries.¹¹

Recently the country announced a move towards supporting quality of growth through the improvement of wellbeing and inclusiveness. A ministry of state for happiness has been established with a vision to make the UAE among the happiest countries in the world. The mission of the ministry promotes happiness and positivity as a lifestyle and as the higher purpose of government work in the UAE. Its objectives are to harmonize government plans (programmes, policies, and legislations) to achieve happiness and positivity in society; to incentivize public and private entities to launch and champion initiatives, projects, and policies to achieve happiness and positivity in society; to propose strategic policies (projects and programmes) aimed to achieve happiness and positivity, and coordinate their implementation with the concerned entities; to instil a culture of happiness and positivity as a lifestyle in the UAE, and raise awareness on its importance; to develop KPIs to measure happiness within government entities and the UAE level; and to promote the UAE and enhance its reputation as a global hub of happiness and positivity.

To reflect the importance of youth to society and the economy, the UAE has appointed Her Excellency Shamma bint Suhail Faris Al Mazrui, Minister of State for Youth to head the youth council, which functions are to develop youth-related strategies that are aligned with future trends in the UAE, and be endorsed by the UAE Cabinet; identify challenges facing youth and provide solutions and programmes; propose solutions to ensure positive participation of young people in the community in various sectors; learn about young people's views about related issues; ensure their contribution in boosting national identity and good citizenship among young people; coordinate with relevant entities to implement projects that address talent young people's needs; represent youth in international fora; and any other tasks as delegated by the Cabinet.

To assess the UAE's achievements, we refer to the Global Innovation Index as well as the Global Competitiveness Index. The Global Innovation Index measures the openness and readiness of countries' economies for innovation. The index is published in a report compiled by the World Intellectual Property Organization (WIPO) a U.N. agency, Cornell University, and INSEAD Business School. The index has been ranking world economies since 2007 according to their innovation capabilities and results using approximately 80 indicators in two sub-indexes: the Innovation Input Index and Innovation Output Index, each composed of five and two pillars respectively. Each of these pillars describes an attribute of innovation, and comprise up to five indicators. The UAE is ranked 41 in 2016 (out of 128). Overall, the UAE scored the highest in the MENA region and was the strongest in terms of the strength of its institutions and business sophistication. Globally, the UAE excelled at creating ICTs and the general infrastructure of the country is considered the strongest, such as electricity availability. Although, its high score in Innovation Input Sub-Index (54.5), which gives the country the 25th rank, the innovation Output Sub-Index is only 24.2, which ranks the country 75 and brings the country efficiency ratio to 0.4

¹¹ <http://dfat.gov.au/geo/united-arab-emirates/pages/united-arab-emirates-country-brief.aspx>

to be ranked 117 (highlighted to be a weakness in the report). The report highlights also that despite the top ranks in Innovation Input Sub-Index, and compared to its level of development, the UAE like other resource-rich countries in the region could rank higher. The UAE still exhibits relative shortcomings in important areas, such as Market sophistication (where the UAE is ranked 81 for the ease of getting credit), and Business sophistication in terms of knowledge absorption (where the UAE ranks 85). This phenomenon is reminiscent of what has been called the 'resource curse' or the 'paradox of plenty'. On the other side, the Innovation Output Sub-Index includes two pillars: knowledge and technology outputs and creative outputs. The UAE ranks 86 and 70 respectively. One of the most important weaknesses is related to knowledge creation (UAE rank 102): Patent application by origin (108); Scientific and technical publications (106); High-Tech and Medium-High-Tech output as a % of total manufactures output (n/a); Intellectual Property receipts (n/a); High-Tech exports (111); ICT services exports (n/a).

Published by the World Economic Forum, the Global Competitiveness Report (GCR) ranks countries based on the Global Competitiveness Index. The index integrates the macroeconomic and the micro/business aspects of competitiveness into a single index to measure the ability of countries to provide high levels of prosperity to their citizens through a set of institutions, policies, and other factors. In 2016/17, the UAE ranked 17th with a score of 5.26. Although the rank of the UAE for Goods Market Efficiency, Infrastructure and Institutions is 3, 4 and 7 respectively, the UAE is ranked only 40th in Health and Primary Education; 38th in Macroeconomic Environment; 34th in Higher Education and Training and 25th in Innovation. The report highlights that small gains in areas such as technological adoption and business sophistication are partially offset by deteriorating macroeconomic stability that is the result of lower energy prices, which have led to a rise in inflation and public debt and to the emergence of a fiscal deficit. Going forward, the report mentions that to diversify its economy, the UAE should enhance innovation (the UAE rank for PCT patent applications is 46 and for university-industry collaboration in R&D is 25). There is equal scope for better leveraging digital technologies that are an important enabler of business innovation. Currently the country ranks 29th in ICT use. Finally, the report highlights the most problematic factors for doing business including inadequately educated workforce and insufficient capacity to innovate.



HOW TO READ THE UAE GEM REPORT

To assist the reader, we present an overview of the report structure and the rationale behind it including the choice of the comparator countries.

GEM UAE 2016, report is composed of 7 chapters. In the first chapter, we present the factors that encourage or hinder entrepreneurial activity which are related to societal values (section 1) and personal attributes in terms of individual self-perceptions about entrepreneurship (section 2). Then we present entrepreneurial activity in the UAE (Chapter 2) and its characteristics (Chapter 3), considering the motivation to start a business (section 1), the sector in which the entrepreneurial activity is established (section 2), the number of owners involved (section 3) and the impact measured through job creation and aspirations (section 4). In Chapter 4, we present the level of innovation, competitiveness and internationalization related to the entrepreneurial activity. Chapter 5 describes the UAE entrepreneur typical profile. Chapter 6 presents the status of informal investment in the UAE in terms of volume and the characteristics of the adult population acting as informal investors and their relationship with the beneficiaries. In Chapter 7, we present the perceived quality of the entrepreneurship ecosystem conditions by the national experts, the main constraints and supports for entrepreneurial activity, as well as their major recommendations. The concluding chapter presents a summary of the findings and our recommendations for policy and practice.

Each chapter begins with an introductory section presenting an overview and the major related GEM indicators. In the each following sections, we present a comparison of the UAE results to comparator countries (the rationale driving their selection is explained below). The third section presents temporal evolution of the indicators throughout the period when GEM was active in the UAE (2007, 2009, 2011 and 2016). The fourth section is deeper analysis considering additional factors such as the residency status (nationals and expats), gender, age, educational level and the region. For the latter, we divided the UAE into four regions: the Emirate of Abu Dhabi, the Emirate of Dubai, the Emirate of Sharjah and Northern Emirates. Some of the chapters include case studies to highlight major related initiatives and practices. For instance, Chapter 5 includes two case studies on women and entrepreneurship and entrepreneurship and happiness in the UAE. We also explain in the latter how the government ambition to achieve a new quality of growth could create new opportunities for entrepreneurs in the future. Chapter 7 includes a case study on financing for entrepreneurs in the UAE. The concluding chapter includes 3 case studies. The first case presents Dubai Accelerator of the Future and the opportunity it represents by bringing to the UAE the best entrepreneurs in the world. The second case study about UAEU Science and Innovation Park reflects a quadruple helix model initiative intended to foster innovation and competitiveness to support the shift of the UAE towards a knowledge-based economy. The last case study presents two initiatives to create an increasing number of university students' entrepreneurs and to embed them into the ecosystem as key to support a form of youth entrepreneurship in the UAE.

Throughout the report we systematically compare the UAE GEM indicators to GEM and innovation-driven economies averages. We also compare the UAE indicators to regional countries: Saudi Arabia (GCC) and Lebanon (MENA). In the innovation-driven economies group we compare the UAE to the Netherlands (for its similar size) and to Canada (for its relatively similar federal administrative system). The last country we use as comparator is Singapore for being an aspiring economic model for the UAE policy makers.





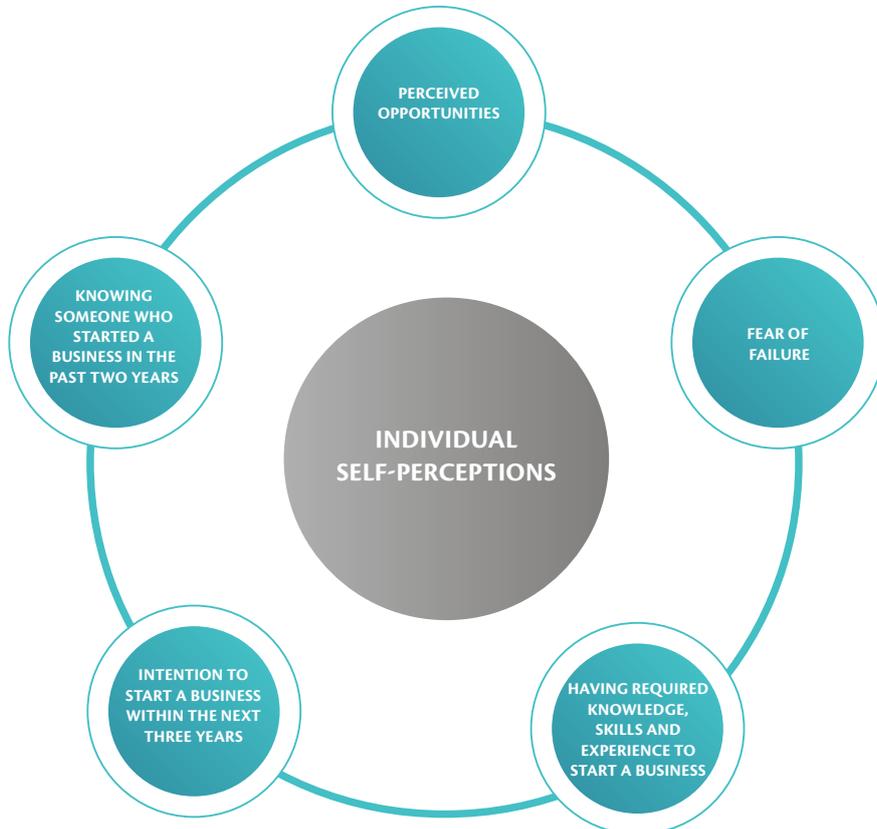
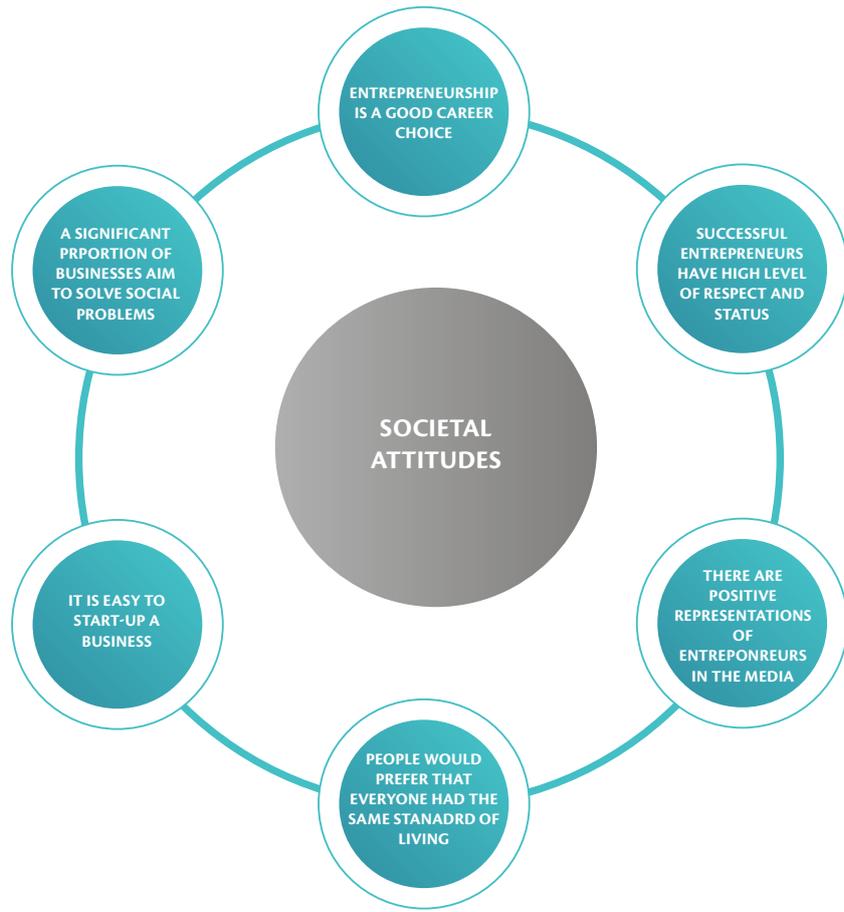


CHAPTER 1: SOCIETAL VALUES AND INDIVIDUAL SELF-PERCEPTIONS ABOUT ENTREPRENEURSHIP

To understand entrepreneurial activity rate in a country, the GEM framework considers societal values and attitudes of the population towards entrepreneurs. These attitudes reflect society's culture, history, policy and business environment as well as many other factors. The attitude towards entrepreneurship can affect entrepreneurial ambitions and the extent to which entrepreneurial activity will be supported.

GEM assesses the extent to which people think entrepreneurship is a good career choice, whether they feel entrepreneurs are afforded high status, whether there are positive representations of entrepreneurs in the media, to what extent residents in the UAE think that their society has or not preference for competitive environments, to what extent they think it is easy to start up a business in their country, and to what extent they think a significant proportion of businesses takes as first aim solving social problems (See section 1).

Besides societal attitudes, personal perceptions about entrepreneurship may influence whether one would consider starting a business. GEM assesses individual self-perceptions regarding whether people see opportunities around them, whether those seeing opportunities would feel constrained by fear of failure, whether they believe they can start a business, and whether they intend to do so within the next three years (see section 2).

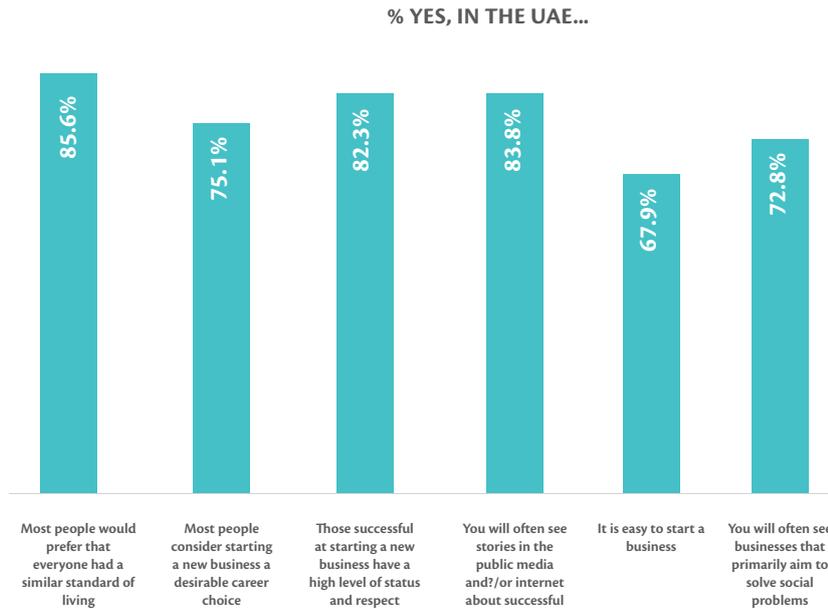


1.1 SOCIETAL VALUES

GENERAL OVERVIEW

Results for 2016 indicate that a high proportion of the UAE adult population (75.1%) considers that starting a new business is a desirable career choice, and that those successful at starting a new business have high level of social status and respect (82.3%). People in the UAE also believe that public media and Internet present successful new businesses well (83.8%). The UAE adult population also shows a high proportion (72.8%) of people perceiving that some businesses have as first aim the solution of social problems. Furthermore, the UAE's adult population believes it is rather easy to start a new business (67.9%). However, the UAE's adult population also strongly prefers living in a non-competitive environment with 85.6% preferring that everyone had a similar standard of living.

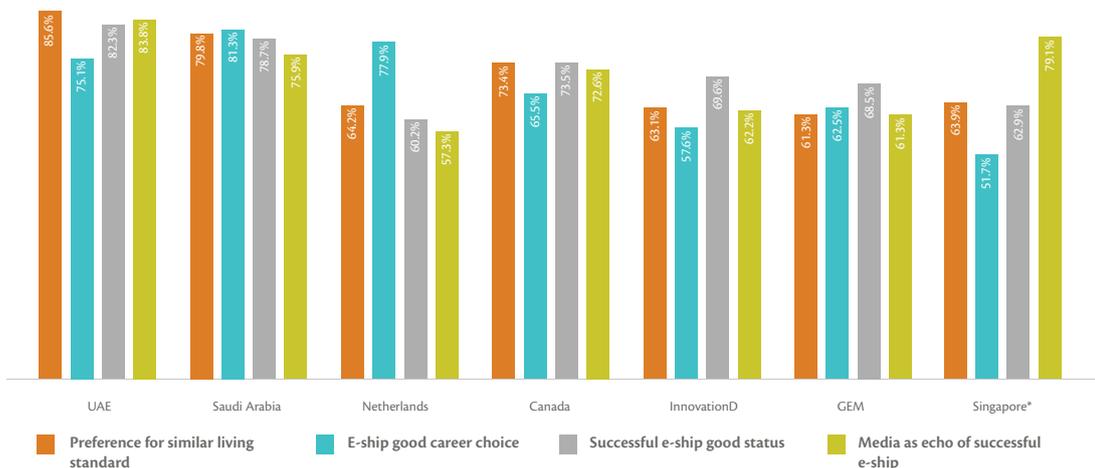
Figure 1.1: Perception of societal values related to entrepreneurship in the UAE: percentage of positive response within the 18-64 population to key questions related to this topic



INTERNATIONAL POSITION

Overall, perceptions of entrepreneurship in the UAE are more favourable than most of the comparator countries. In terms of perceiving entrepreneurship as a good career choice, the UAE scores higher (75.1%) than Canada (65.5%), Singapore (51.7%), Innovation-Driven Countries in general (57.6%) and the GEM average (62.5%). Only Saudi Arabia (81.3%) and Netherlands (77.9%) have slightly higher perceptions. Furthermore, people in the UAE have the highest rates of perceiving entrepreneurship as a high-status career (82.3%), closely followed by Saudi Arabia (78.7%) and Canada (73.5%), well above the Innovation-Driven Country (69.9%) and GEM (68.5%) averages. The UAE also has the highest perception (83.8%) of media and internet positive coverage of success, closely followed by Singapore (79.1%), Saudi Arabia (75.9%) and Canada (72.6%), which are all much higher than the Innovation-Driven Country (62.2%) and GEM (61.3%) averages. However, the UAE has the lowest level of competition (85.6%) compared to other countries, with only Saudi Arabia (79.8%) being comparable. In contrast, most other countries are much more competitive and close to the GEM average (61.3%) and Innovation-Driven Countries average (63.1%).

Figure 1.2: UAE international position about indicators on perception of societal values related to entrepreneurship



Note: Lebanon did not ask the questions related to this topic.

*From 2014 Singapore GEM Data.



The UAE shows a strong cultural background regarding entrepreneurship societal values with more than three thirds of the working-age population considers starting new businesses as good career choice to get social status and respect if succeed.



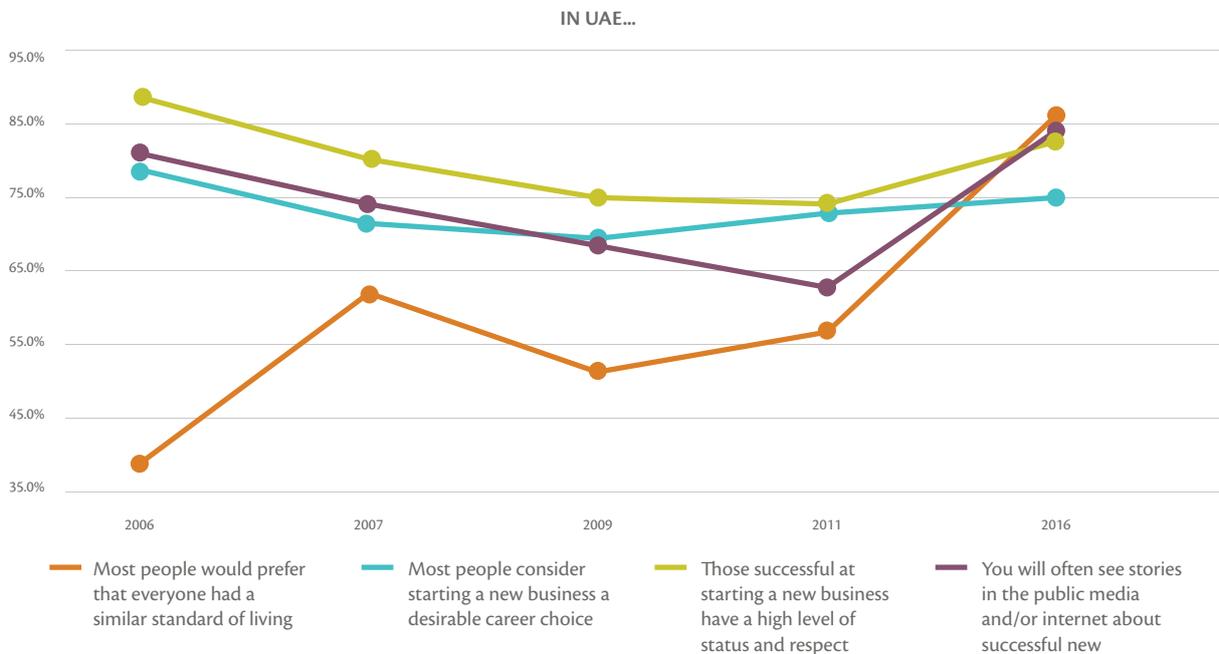
However, the UAE has one of the least competitive societies amongst its comparators.



TEMPORAL EVOLUTION

The UAE previously participated in GEM in 2006, 2007, 2009 and 2011. The only indicator which has shown a clear change over this period is the desire for less competition and more similar standard of living, rising from the lowest in 2006 (39.4%) to a high of 85.6% in 2016. Over the same period of study, most indicators have exhibited a U-shape – gently decreasing over the years before rising close to (but less than) their 2006 level in 2016. For instance, people considering starting a new business as a desirable career choice has marginally decreased to 75.1% compared to 78.7% in 2006. Similarly, the rate of people considering those starting a business have a high level of status and respect has fallen from a joint 88.3% to 82.3%. The referencing of entrepreneurship in the media or on Internet decreased since 2006 until 2011 from 81.1% to 62.8% to increase again to 83.8% in 2016. This U-shape suggests that with improving economic conditions more people in the UAE are considering entrepreneurship a good option.

Figure 1.3: Temporal evolution of indicators on perception of societal values related to entrepreneurship



FURTHER ANALYSIS OF THE PERCEPTION OF SOCIETAL VALUES RELATED TO ENTREPRENEURSHIP IN THE UAE

Although the perception of societal values related to entrepreneurship is very high in the adult population of the UAE, it is interesting to note some subtle differences that occur by residency status (whether the respondent was an Emirati or a non-Emirati expat) and region of the UAE. These differences are relevant from the standpoint of public policy design and understanding of the entrepreneurial ecosystem.

Figure 1.4 below presents the results of the perception of societal values related to entrepreneurship. Both Emiratis and non-Emirati expats have equal preferences for less competitive societies, at 85.7% and 85.6% respectively. However, non-Emirati expats consistently view the other aspects of entrepreneurship more positively than Emiratis. For instance, 86% of non-Emirati expats have positive perceptions of entrepreneurial stories in the media in comparison to 70.9% for Emiratis. Similarly, 84.4% of non-Emirati expats view those who start businesses having a higher level of respect compared to 70.5% for Emiratis, and 76.6% of non-Emirati expats considering starting a new business desirable compared to 65.4% for Emiratis. This trend continues starting a business and the purpose of businesses, with non-Emirati expats considering it is easier to start a business (69.6%) than Emiratis (58%), and that businesses are primarily aimed to solve social problems (75.3% for expats versus 58.5% for Emiratis).

Figure 1.4: Perception of societal values related to entrepreneurship in UAE by Residency status: percentage of positive response within the 18-64 population to key questions related to this topic

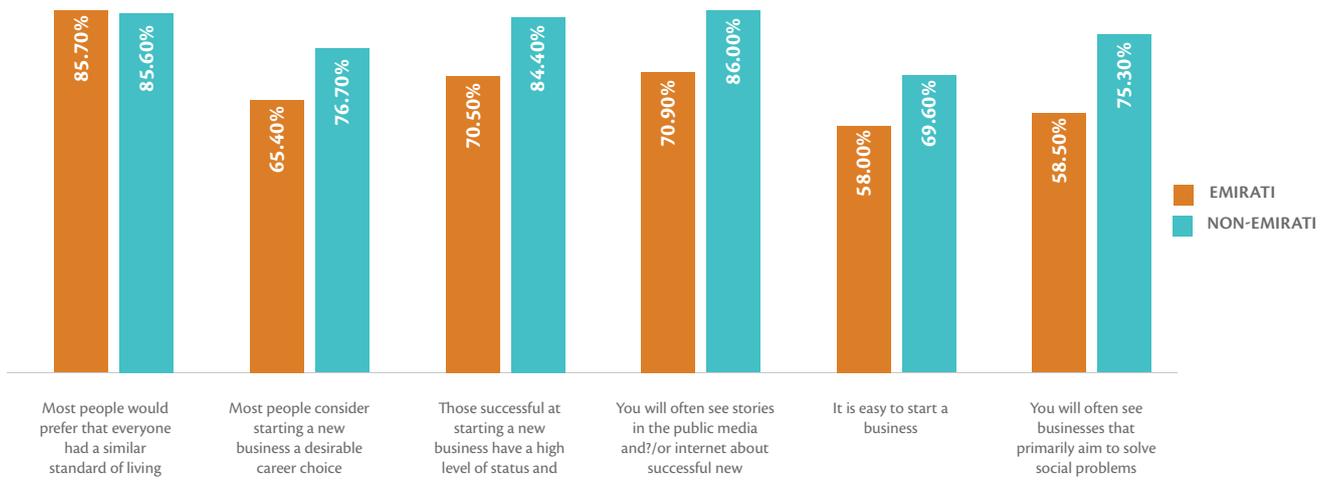
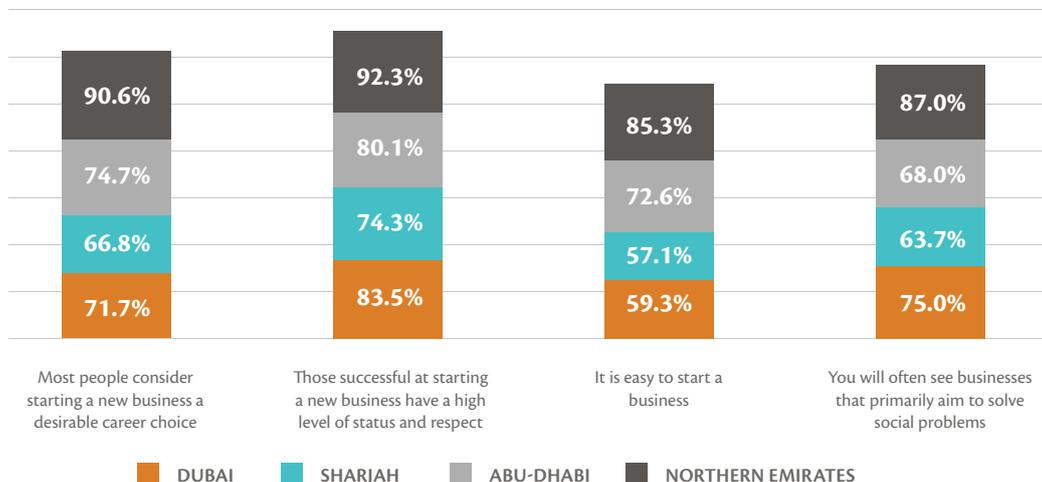


Figure 1.5 below presents selected results by region of the UAE. Starting a business is considered rather easy in most Emirates, however is perceived as less so in Dubai (59.3%) and Sharjah (57.1%) when compared to people in Abu Dhabi (72.6%) and the Northern Emirates (85.3%) who consider it somewhat easier. People in the Northern Emirates consider becoming an entrepreneur more a desirable business choice (90.6%) and feel that those who start a business have a high level of status and respect (92.3%) as compared to the other Emirates. Similarly, the people from the Northern Emirates feel that businesses are aimed to solve social problems (87.0%), more so than other emirates.

Figure 1.5: Perception of societal values related to entrepreneurship in UAE by Region: percentage of positive response within the 18-64 population to key questions related to this topic



There are also some other subtle differences in gender, age, educational level, level of involvement in the business sector, and likelihood of potential entrepreneurship. The data for these are detailed in the figures 1.6 to 1.8 below. Some highlights are listed below.

- Women tend to perceive the UAE's society slightly less competitive than men.
- Women perceive the UAE's society somewhat less favourable to consider entrepreneurship as a good professional choice than men.
- Men are somewhat more likely than women to think that in the UAE you can often see stories in the public media and/or Internet about successful new businesses.
- Men perceive the UAE's businesses somewhat more aimed to solve social problems than women, and that it is easier to start a business.
- People less than 44 years old are more likely to consider starting a business a desirable career choice, and that being an entrepreneur confers an elevated level of status and respect.

Figure 1.6: Perception of societal values related to entrepreneurship in UAE by Gender: percentage of positive response within the 18-64 population to key questions related to this topic

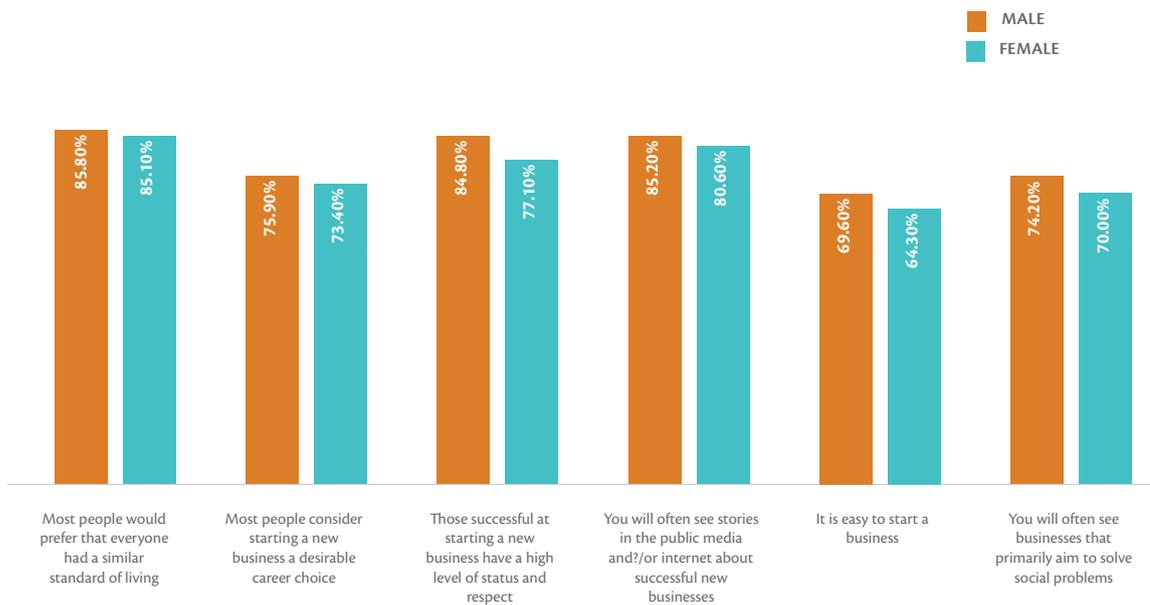


Figure 1.7: Perception of societal values related to entrepreneurship in UAE by Age: percentage of positive response within the 18-64 population to key questions related to this topic

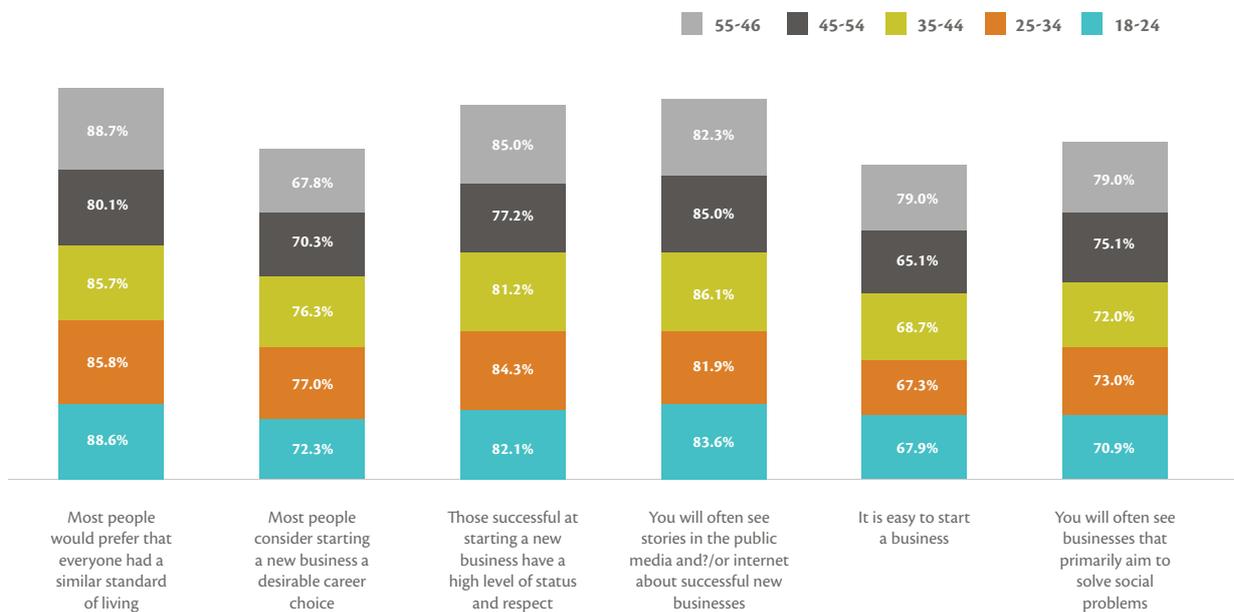
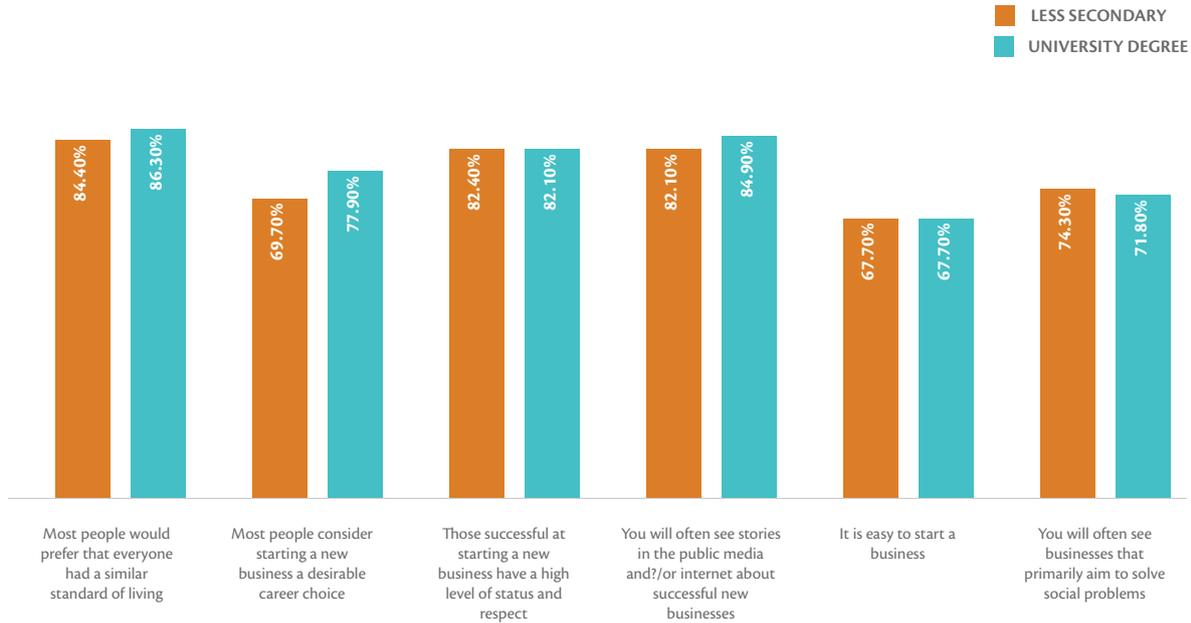


Figure 1.8: Perception of societal values related to entrepreneurship in UAE by Education: percentage of positive response within the 18-64 population to key questions related to this topic



1.2 INDIVIDUAL SELF-PERCEPTIONS

GENERAL OVERVIEW

Figure 1.9 below shows that 61.7% of working-age adults in the UAE personally “know someone who started a business in the past two years”. Moreover, 55.2% of the working-age individuals feel they have the ability and skills required to start a business. Nevertheless, 50.1% of them would be constrained from starting a business due to a “fear of failure” and only 25.8% of the same population sees “good opportunities around them to start a business”.

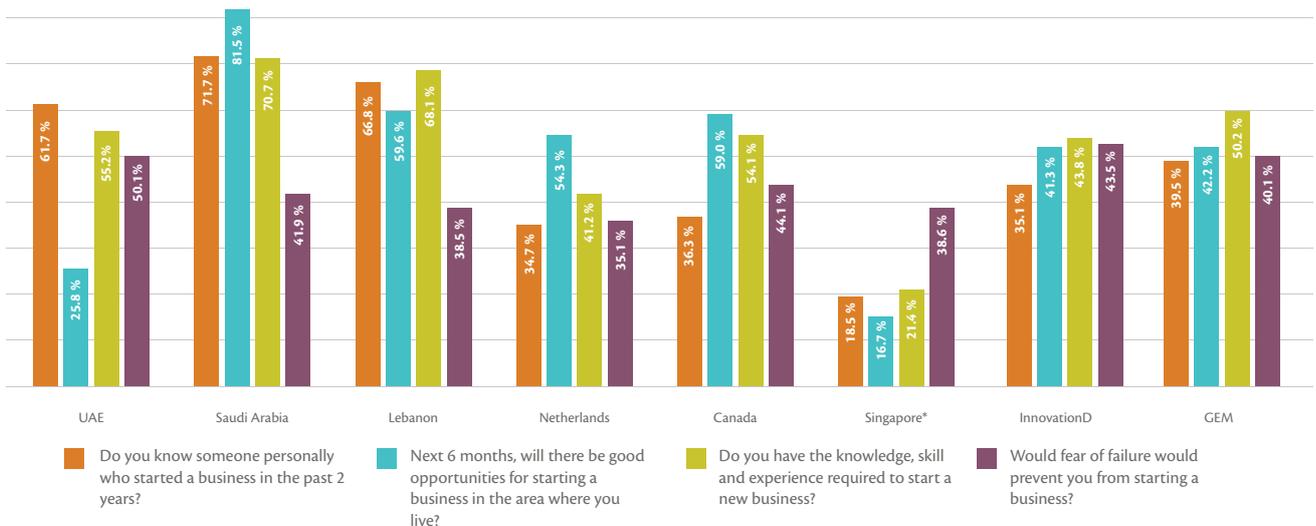
Figure 1.9: Percentages of positive responses for 18-64 adult population on questions about self-perceptions about entrepreneurship



INTERNATIONAL POSITION

Figure 1.10 suggests that the UAE, along with Saudi Arabia and Lebanon, has significantly more people who 'know someone who started a business' than other comparator countries including innovation-driven economies and GEM averages. The UAE ranks third with Canada in the 'possession of knowledge and skills' to start a business after Saudi Arabia, Lebanon, and slightly higher than innovation-driven economies and GEM averages. However, the UAE is the highest nation in terms of 'fear of failure' and the lowest nation in terms of 'perceived opportunities' to start a business. Saudi Arabia is the highest nation in 'perceived opportunities' for starting a business, followed by Lebanon, whereas Netherlands is the lowest nation in 'fear of failure' to start a business, followed by Lebanon, Saudi Arabia and Canada. The UAE, unlike Saudi Arabia and Lebanon who are in the same region, has the lowest entrepreneurial aspiration whilst having a moderate level of exposure to entrepreneurial activity and the possession of skills and knowledge to start a business.

Figure 1.10: UAE: international position about indicators on individual self-perception about entrepreneurship

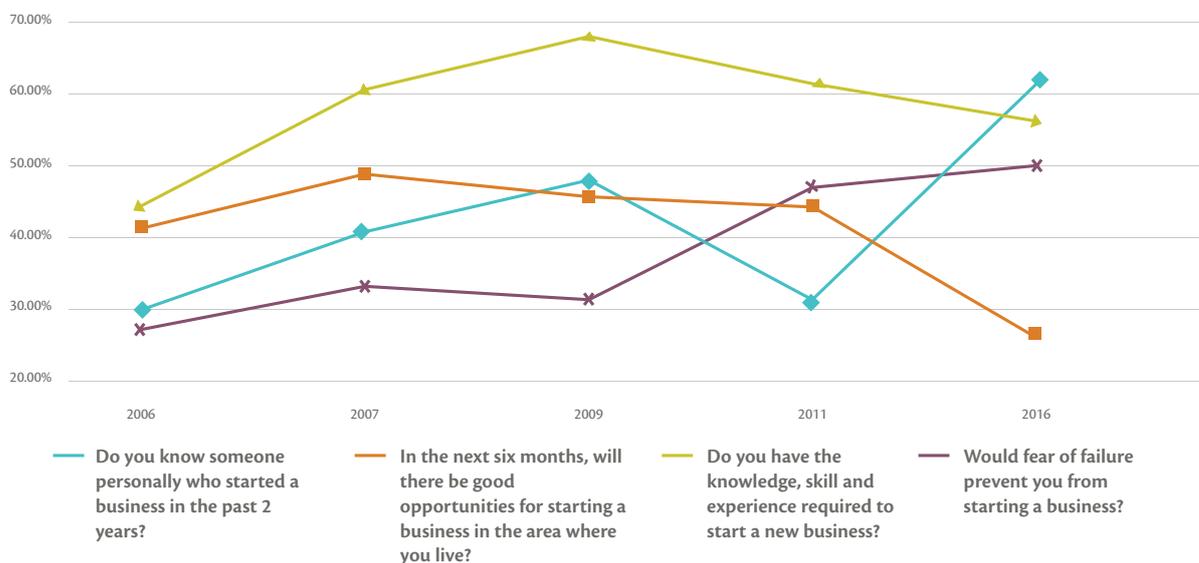


*From 2014 Singapore GEM Data.

TEMPORAL EVOLUTION

Figure 1.11 shows significant changes over the period that the GEM reports cover. Of note, the rate of the population knowing recent entrepreneurs exhibits a sudden drop (31.2%) in 2011 from 2009, and then swings back up (61.7%) in 2016. The rate of the self-perception on opportunities to start a new business has decreased from 41.30% to 25.8% in 10 years since 2007. This trend may have led to a continuous decrease in entrepreneurial activity in the UAE during this period. Similarly, the rate of 'fear of failure' has continuously increased to 50.1%, which may have led to lower rates of the self-perception on opportunities to start a new business. The rate of the 'possession of knowledge and skills' to start a new business has increased till 2009, and then decreased to 55.2% in 2016. This is another result that requires a high attention of policy makers and business educators.

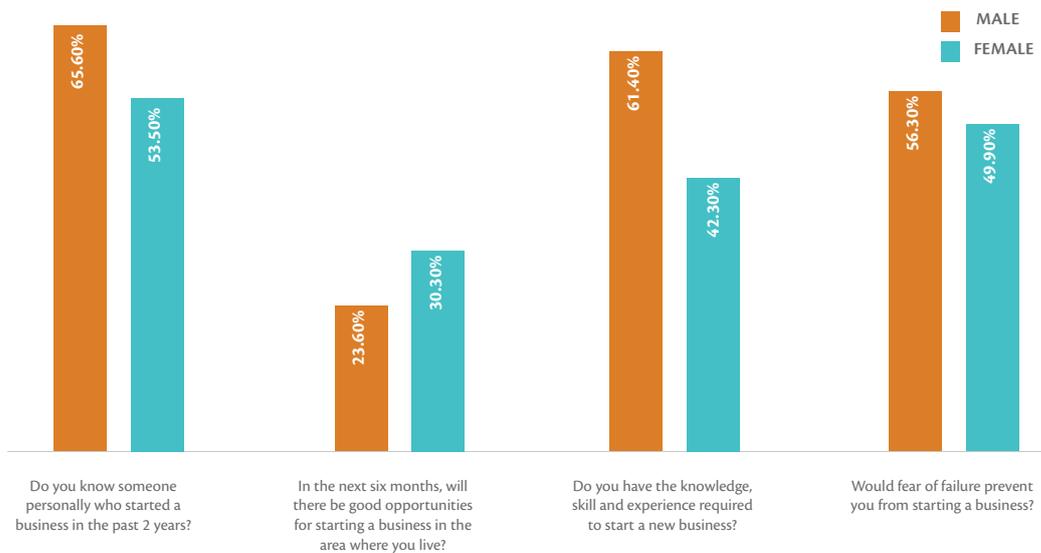
Figure 1.11: Temporal evolution of indicators on individual self-perception on entrepreneurship



FURTHER ANALYSIS OF INDIVIDUAL SELF-PERCEPTIONS ABOUT ENTREPRENEURSHIP

The assessment on individual self-perceptions about entrepreneurship from gender perspective gives a less favourable picture for UAE’s males than for females. Figure 1.12 below shows that although males exhibit significantly higher percentages of positive responses about ‘knowing recent entrepreneurs’, and ‘possession of knowledge and skills’ on starting a new business than females, they also show a higher rate on ‘fear of failure’ as an obstacle to starting a new business. In the contrast, females have more positive perception toward having a good opportunity to start a business despite they know fewer recent entrepreneurs, and possess less knowledge and skills on starting a new business than their counterparts. The lack of individual risk-taking culture among males is a relevant subject of study to determine its causes, and correct it in due course. Otherwise, it is going to be more difficult for males’ entrepreneurship to progress and make significant contribution to UAE’s economy, development and innovation compared to females.

Figure 1.12: Individual self-perceptions about entrepreneurship by gender



From the age perspective represented in Figure 1.13 below, younger people (18-24 years) show lower percentages of positive response on ‘knowing recent entrepreneurs’, ‘good opportunities for starting a business’, and ‘possession of abilities and knowledge’ on how to start a new business whereas people of 55-64 years show the highest rate of ‘fear of failure’ as an obstacle to start a new business compared to other age groups. These findings are plausible for both young and aged groups of people. Other age groups (25-34, 35-44, 45-54) are similar in all areas of self-perception towards entrepreneurship. These age groups of people should be encouraged more to spot or develop ‘good opportunities’ for starting a business and have less ‘fear of failure’ as an obstacle to starting a new business as they are the ones who tend to have more knowledge, skills and experiences in starting a new business than other age groups.

Figure 1.13: Individual self-perceptions about entrepreneurship by age

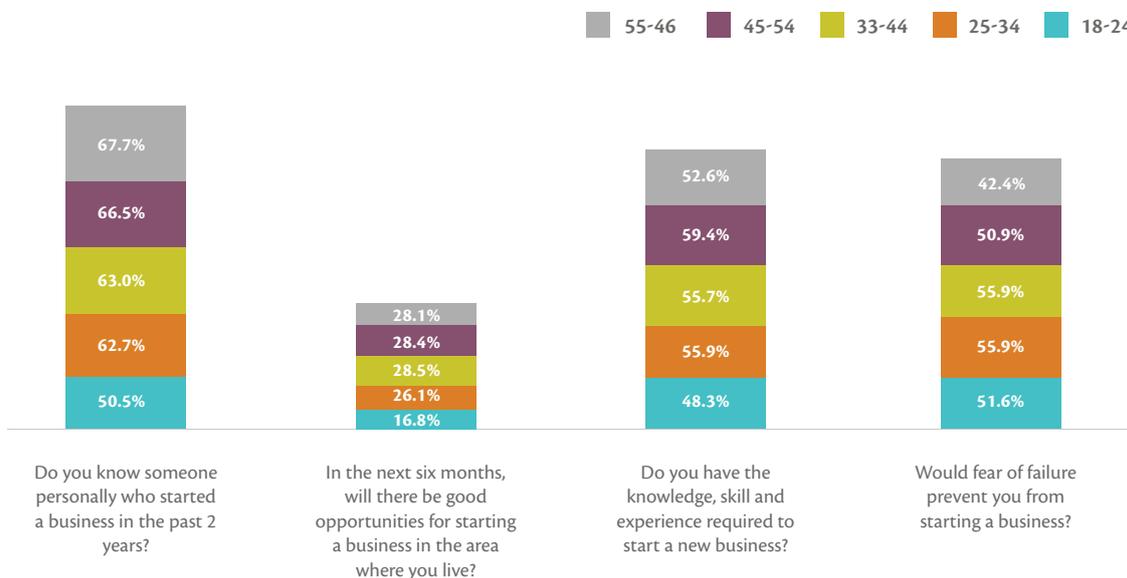


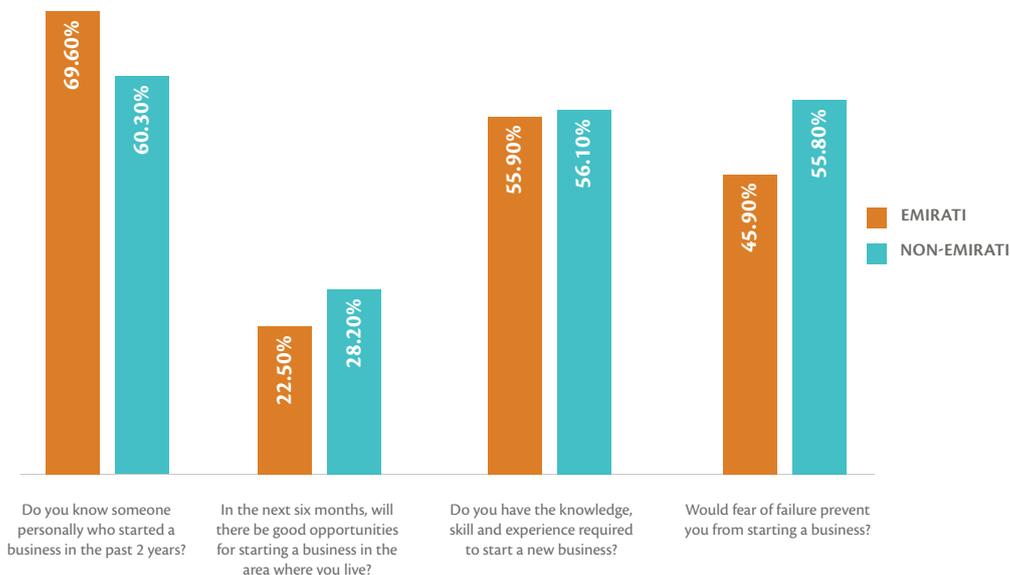
Figure 1.14 suggests that although adult the population with no university education has the lowest level of knowledge, skill and experience required to start a new business, they also have the lowest level of 'fear of failure' to start a business. This result suggests that the level of knowledge, skill and experience may not prevent less educated people from starting a new business. People with only the secondary education not only know more others who personally started a business in the past 2 years, they also are willing to start a new business in the area where they live. We suggest that it is advisable to help and assist these less educated people to reduce their fear of failure rate by providing them with relevant business and management education or training programs.

Figure 1.14: Individual self-perceptions about entrepreneurship by education



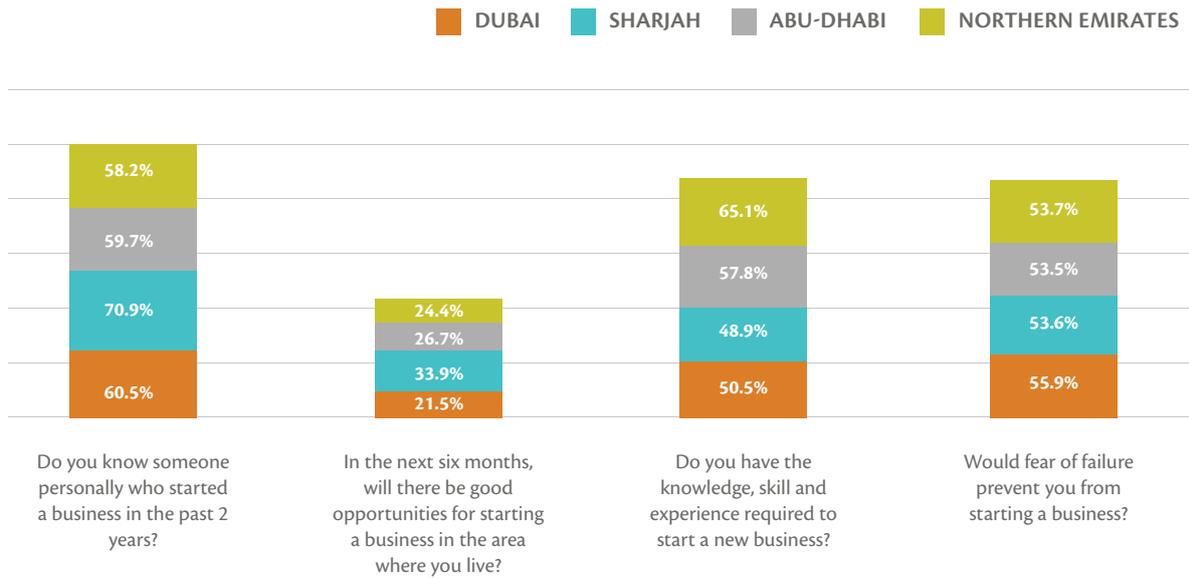
Figure 1.15 presents individual self-perceptions about entrepreneurship by residency status. Emiratis have a higher rate of knowing someone who started a business and low rate in the fear of failure in starting a new business than non-Emirati expats. Although the rate of possession of knowledge and skills to start a business is equal for both Emiratis and non-Emirati expats, it is the non-Emirati expats who perceive more opportunities to start a new business than Emiratis. We suggest that policy makers create the conditions for Emiratis to be able to seek increased opportunities to start a new business more actively. We suggest that policy makers create conditions for non-Emirati expats to reduce their fear of failure.

Figure 1.15: Individual self-perceptions about entrepreneurship by immigration status



Finally, the regional perspective shown in figure 1.16 indicates that most regions are similar in all areas of perception except Sharjah, which, among the seven emirates, has the highest rate of knowing recent entrepreneurs but the lowest rate of possession of skills and knowledge to start a new business. Nevertheless, Sharjah has the highest rate of opportunities to start a new business and one of the lowest rates on fear of failure in starting a new business. It is required to find the required incentives in each region to help reduce fear of failure and to spot or develop perceived opportunities to start a new business.

Figure 1.16: Individual self-perceptions about entrepreneurship by region




United Arab Emirates' adult population know fairly high rate of people starting a business and have knowledge and skills for starting a new business.




Despite having this favourable foundation for starting a new business they tend to have a high rate on the fear of failure and less perceived opportunities to start a new business in the areas where they live.



Appropriate and relevant policies need to be developed and implemented to change the attitudes of UAE population toward perceiving opportunities and risk-taking.







CHAPTER 2: ENTREPRENEURIAL AND BUSINESS ACTIVITY IN THE UAE

2.1 GENERAL OVERVIEW

The UAE's adult population has a high level of involvement in entrepreneurial activities, with a little less than half of the adult population (49.3%) having an intention to start a new business in the next three years (see Table 2.1 below). However, despite having an intention to start a new business, only 1.3% of the population has actually started a new business in 3 months before July 2016 (hereafter called a "Nascent" business). A larger proportion, 4.4% of the UAE population, is involved in a business that is older than 3 months but less than three and half years old in July 2016 (hereafter called a New [or baby] business). Adding these two proportions together, one can see that 5.7% of the UAE adult population is involved in an early-stage entrepreneurial activity the year 2016 (hereafter called the total entrepreneurial activity or TEA rate). A symptom that the entrepreneurial business creation process is not working enough well in the UAE is the low rate of established businesses: only 1.9%. This figure suggests a high attrition rate in the entrepreneurial initiatives, meaning that only that proportion survives the 3.5 years of the consolidation process.

Table 2.1: UAE's 2016 results on entrepreneurial activity and rest of phases of the business development's model

Potential	Nascent	New (baby)	TEA (total)	Established	Discontinuation
49.3%	1.3%	4.4%	5.7% (1.3% + 4.4%)	1.9%	3.7%

The rate between the TEA and the potential entrepreneurship provides a rough indicator as to how entrepreneurial intentions become entrepreneurial activities. The value of this indicator for the UAE the year 2016 is 0.12 (see Table 2.2). This indicates that the proportion of population with entrepreneurial intention is some higher than intentions transformed into activities. If this rate were closer to 1, potential entrepreneurship would be balanced with effective entrepreneurship.

Table 2.2: Relevant rates derived from the results of the business creation and development model

Rates	
TEA / Potential Entrepreneurship	Nascent activity / Exited activity
5.7 / 49.3 = 0.12	1.3 / 3.7 = 0.35

¹² Potential entrepreneurship rate and TEA can be compared as both concepts are referred to within a three years' period.

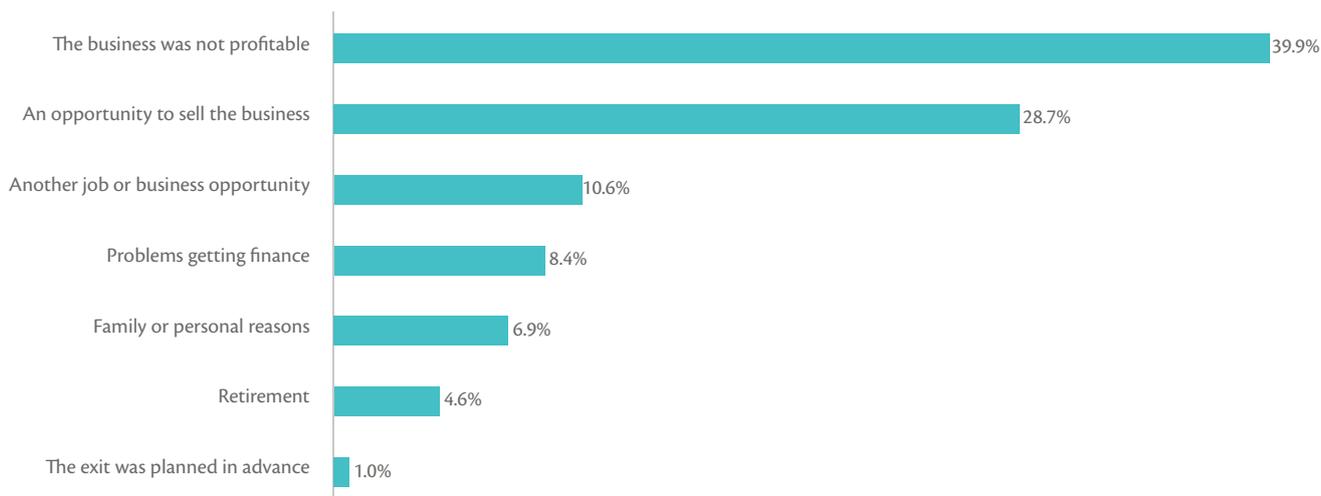
Table 2.3 presents the results of investigation into the reasons for discontinuation. The discontinuation rate of 3.7% is comprised of 2.3% (64.6% of the total) of businesses continuing in other hands, and 1.3% (32.6% of the total) of the businesses existing the market entirely. A negligible proportion of businesses continued operation but changed main activity.

Table 2.3: Detailed figures on businesses' discontinuation in UAE, 2016

Discontinuation of businesses' composition measured by percentages of 64-18 UAE population involved in each phase			
Discontinuation	Business continued in other hands	Business continued but changing its main activity	Business exited the market completely
3.7% (100%)	2.3% (64.9%)	0.1% (2.5%)	1.3% (32.6%)

Figure 2.1 below presents the main motives for business discontinuation. The main reason for the majority of UAE businesses to discontinue is due to the fact that their businesses were not profitable (39.9%). This is followed by "an opportunity to sell the business" (28.7%), "another job or business opportunity" (10.6%), and "problems getting finance" (8.4%).

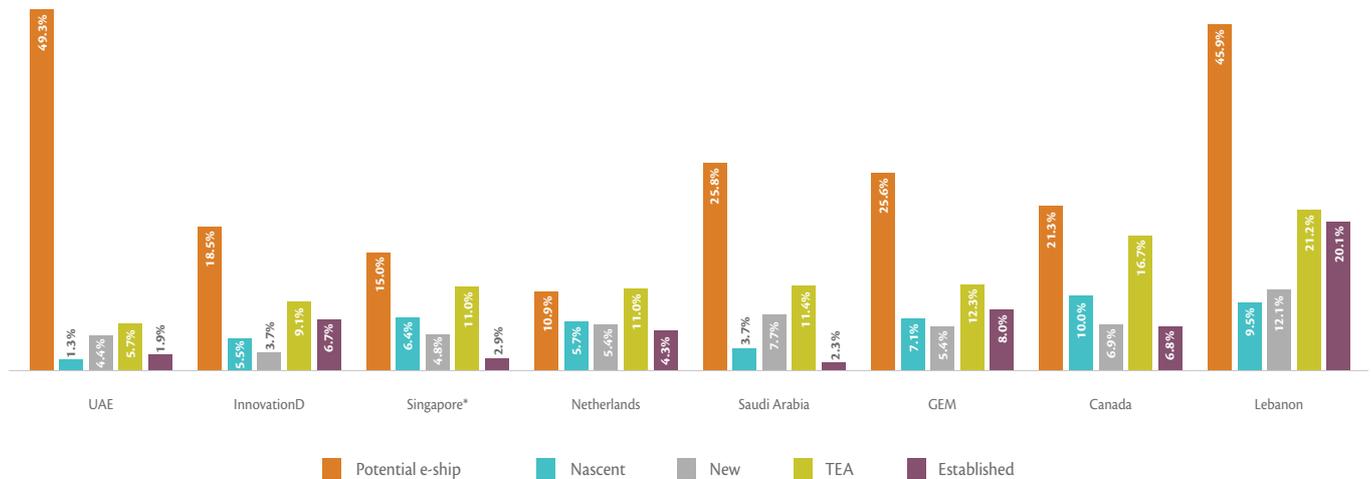
Figure 2.1: Main motive for business discontinuation in the UAE the year 2016



2.2 INTERNATIONAL POSITION

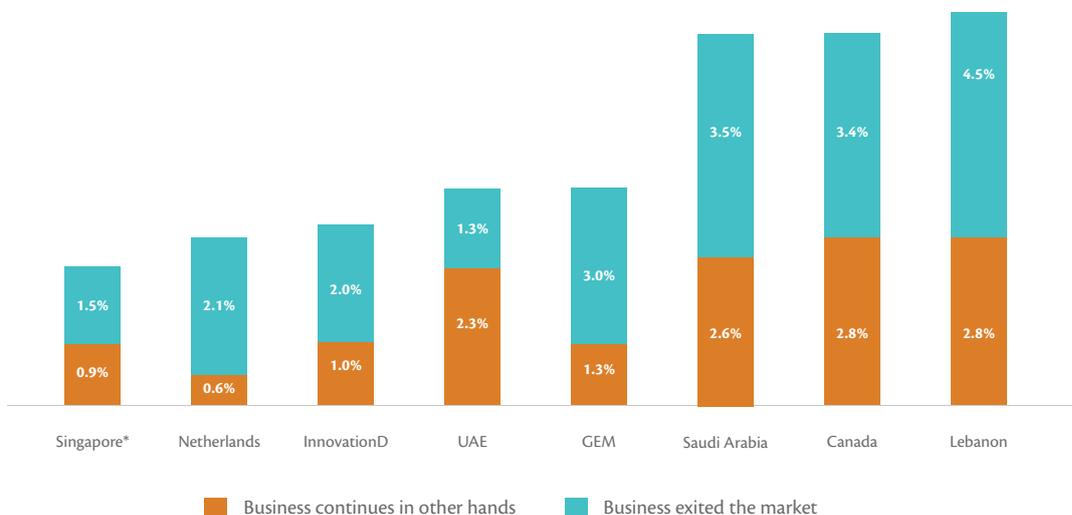
The UAE shows the highest rate of potential entrepreneurship among the comparison countries, and is closest to Lebanon (see Figure 2.2). However, in contrast, the nascent activity rate of the UAE (1.3%) is the lowest of the comparison countries, and is closest to Saudi Arabia (3.7%). The new activity rate (4.4%) is also the lowest of the comparison countries, but is greater than the Innovation-Driven Countries average rate (3.7%). Consequently, the TEA rate of the UAE (5.7%) is significantly the lowest among the group of countries; it falls under the Innovation-Driven country average (9.1%), while the closest countries are the Netherlands (11%) and Saudi Arabia (11.4%) average, which are still more than double. The established activity shows a very low rate (1.9%) and is comparable to that of Saudi Arabia (2.3%). These low rates can be understood to reflect a high volatility of businesses. Lebanon stands as the most active country with the most balanced situation of the indicators (nascent rate < new rate < established rate).

Figure 2.2: UAE: international position about indicators on business development model



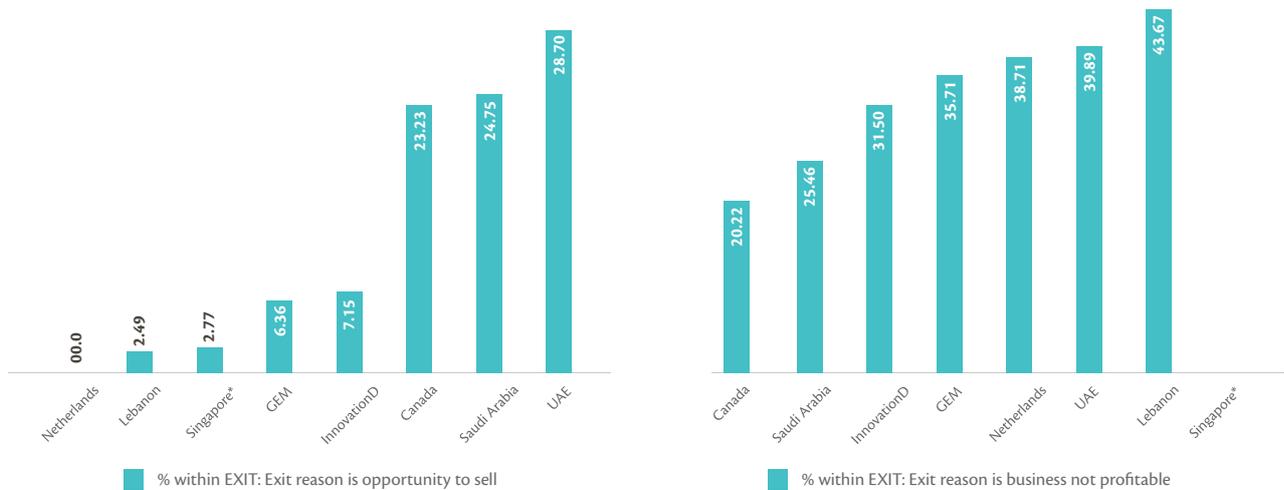
In comparing the discontinuation results (see Figure 2.3 below), the UAE discontinuation rate (3.7%) falls in the middle of the comparison countries. It is greater than the Netherlands (2.7%), Singapore (2.4%) and Innovation-Driven Country average (3.0%), but is significantly less than Lebanon (7.3%), Saudi Arabia (6.1%) and Canada (6.2%), and only slightly less than the GEM average. However, as a proportion of the business discontinuation, the UAE has more businesses changing hands (2.3%) than exiting the market (1.3%). This appears to be unique amongst the comparator countries, suggesting an interesting dynamic in the UAE.

Figure 2.3: UAE: international position about detailed indicators on business discontinuation



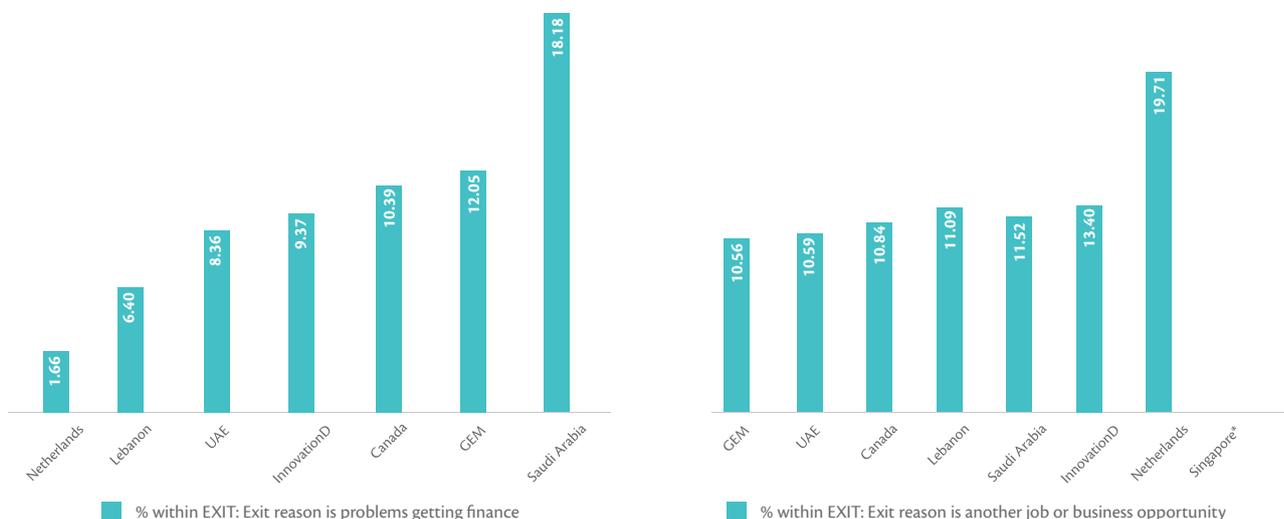
The figures below compare the main reasons for business discontinuation between different countries. The UAE leads as the nation most likely to exit due to an opportunity to sell, followed by Saudi Arabia (24.75%) and Canada (23.23%). The averages for the GEM (6.36%) and Innovation-Driven Countries (7.15%) are much lower. This result is not disappointing as these businesses are still considered to be profitable or have potential to survive and grow. Indeed, it suggests confidence in the future UAE economy. However, the UAE is the second highest country of business discontinuation for reasons of lack of profitability (29.89%), with Lebanon showing the greatest proportion (43.67%), while the Netherlands has comparable proportion to the UAE (38.71%). Thus, perhaps this result suggests that running a profitable business in the UAE is difficult, or that entrepreneurs engage in more risky undertakings. However, the UAE rate of lack of profitability is not that much greater than the GEM (35.71%) or Innovation-Driven Countries (31.50%) averages.

Figure 2.4: Comparison of discontinuation due to opportunity to sell or not profitable



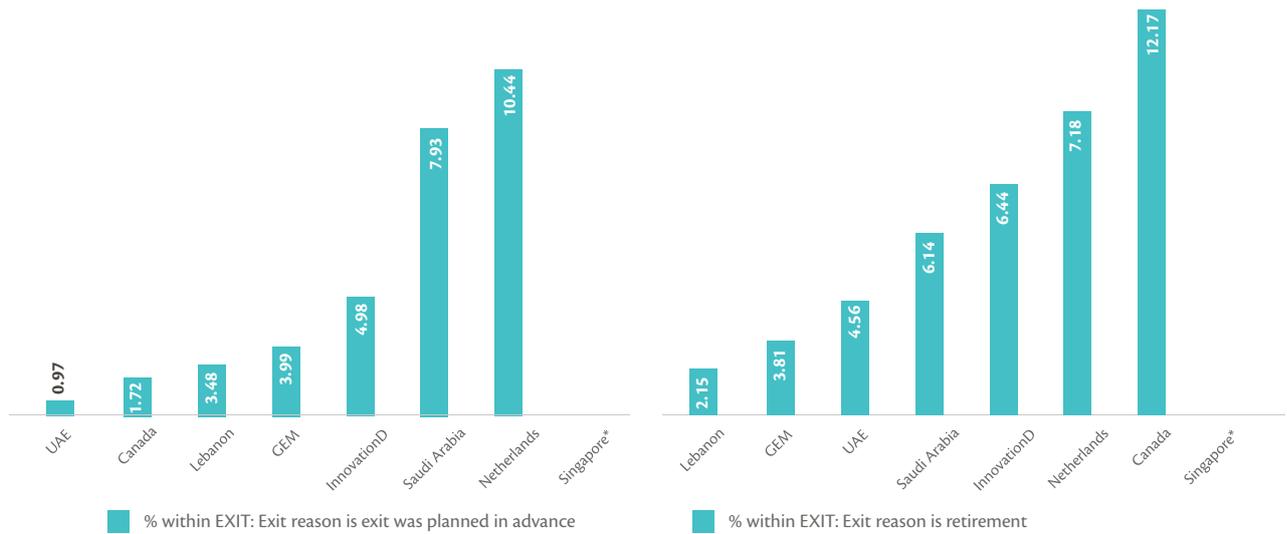
Entrepreneurs in the UAE appear to be able to access financing, as the UAE has one of the lower proportions of this reason to discontinue the business, having a proportion (8.36%) that is less than both the Innovation-Driven Countries (9.37%) and GEM (12.05%) averages. Only Lebanon (6.4%) and the Netherlands (1.66%) have better access to funding. In terms of discontinuing a business to undertake another job or business opportunity, the UAE is similar across the comparator countries, except for the Netherlands.

Figure 2.5: Comparison of discontinuation due to getting finance or seeking another job.



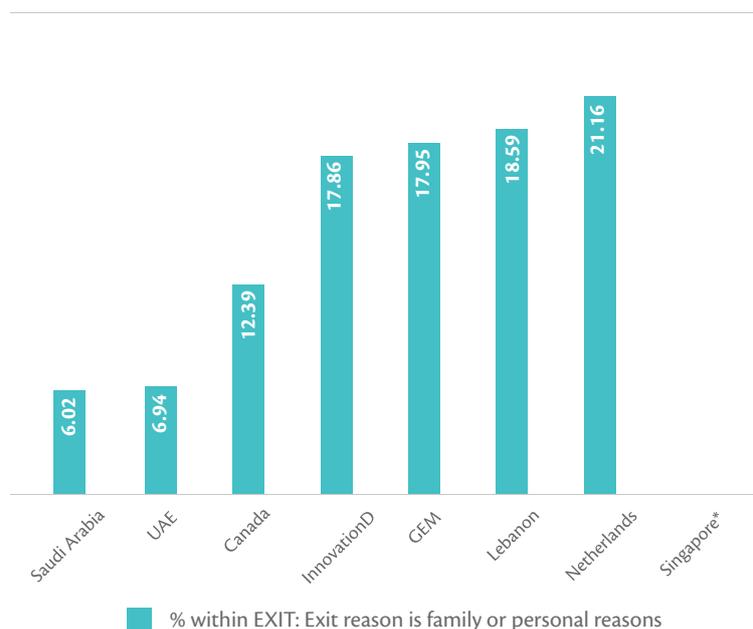
The UAE has the lowest proportion of ventures that planned the business exit in advance, only 0.97% of responses. The closest comparator country is Canada (1.72%), while the GEM (3.99%) and Innovative-Driven Countries (4.98%) have averages that are much higher. This is a concern as a planned exit is a more positive way of closure of businesses than being forced to close down. In terms of discontinuing businesses through retirement, the UAE has a similar rate (4.56%) to the GEM average (3.81%), with only Lebanon having a lower rate (2.15%). Like exit by planning in advance, it can be positive as people can plan to exit. In that sense, Middle East nations including the UAE are less likely to exit by retirement.

Figure 2.6: Comparison of discontinuation due to advance planning or retirement.



The UAE has a low rate of business discontinuation for family or personal reasons (6.94%), which is similar to Saudi Arabia (6.02%). Given that comparator countries, the GEM (17.95%) and Innovation-Driven Countries (averages 17.86%) are much higher, this suggests that the work – life balance for entrepreneurs in the Middle East is positive.

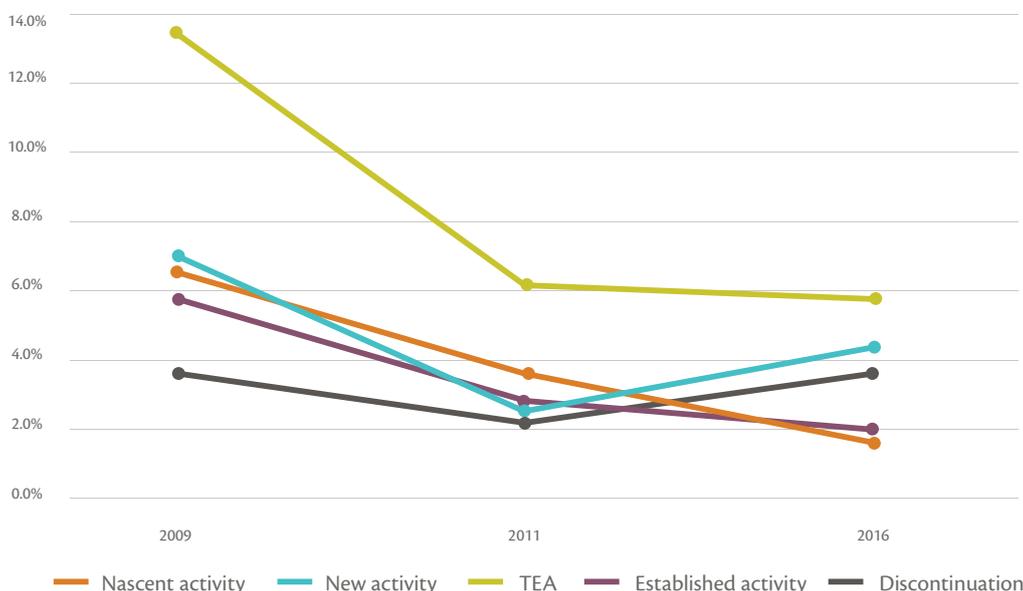
Figure 2.7: Comparison of discontinuation due to family or personal reasons.



2.3 TEMPORAL EVOLUTION

Figure 2.8 presents the temporal evolution of the main indicators that make up the effective business creation process over the period of measurement. The TEA rate has been decreasing during the period with a steep drop from 2009 to 2011 followed by a smaller drop from 2011 to 2016. However, its composition of nascent and new activity has varied: in 2009 both new activity is slightly higher (6.8%) than nascent activity (6.5%), while in 2011 the order has changed, with the nascent activity significantly higher (3.7%) than new activity (2.5%). In our most recent figures for 2016, we find that the order has changed again, with a new activity significantly higher (4.4%) than nascent activity (1.3%). Put differently, there has been a consistent decrease in the number of nascent businesses between 2009 and 2016, while new businesses appear to have rebounded in 2016 after many failing in the 2009-2011 period. However, the established business rate has been consistently decreasing over the period, albeit at a slower rate from 2011 to 2016 than 2009 to 2011, these figures suggest that business development and consolidation models are not working properly in the UAE.

Figure 2.8: Temporal evolution of main indicators on business process for UAE



2.4 ENTREPRENEURIAL ACTIVITY IN THE UAE: FURTHER ANALYSIS

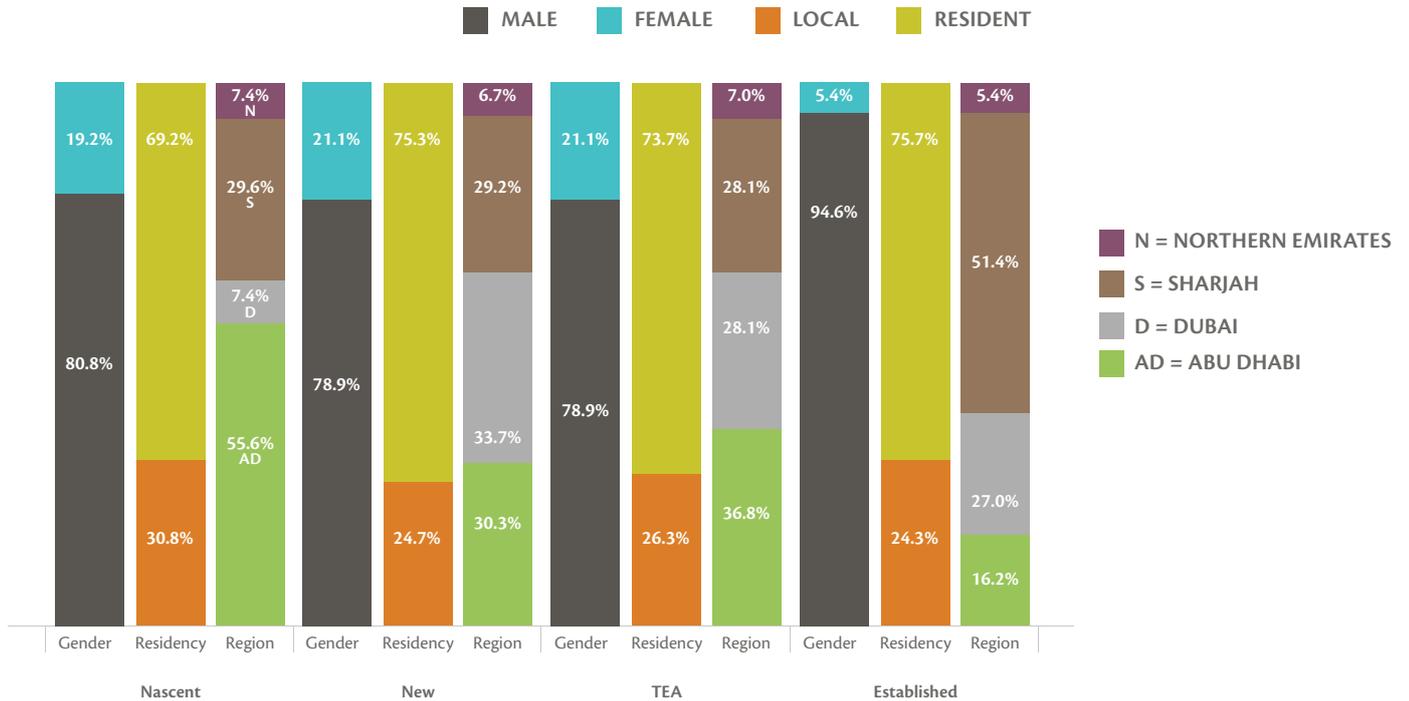
Figure 2.9 below presents the results of UAE entrepreneurial activity by gender, residency and region. Entrepreneurial activity is generally undertaken by men, with 80.8% of nascent businesses reported by males, 78.9% of new businesses reported by males, and 94.6% established businesses by men. These numbers may suggest that only few women are entrepreneurs in the UAE. However, this trend is obviously changing if we look at the number of women involved in established enterprises (less than 5.4%) compared to the 19.2% women who are starting a business in 2016.

In terms of residency – Emiratis comprise 30.8% of nascent businesses, and approximately a quarter of new (24.7%) and established businesses (24.3%). Given that Emiratis comprise approximately 10% of the overall population,¹³ this suggests that Emiratis are more likely to be entrepreneurs than non-Emirati expats.

Nascent businesses are most common in Abu Dhabi (55.6%), followed by Sharjah (29.6%), while both Dubai and the Northern Emirates have a low proportion of very early stage businesses. However, Dubai has the greatest proportion of new businesses (33.7%), closely followed by Abu Dhabi (30.3%) and Sharjah (29.2%). Interestingly, the greatest proportion of established businesses is in Sharjah (51.4%), followed by Dubai (27.0%) and Abu Dhabi (16.2%). These figures suggest that there is high volatility and turnover of businesses in Abu Dhabi and Dubai, while businesses started in Sharjah tend to operate for longer. The low proportions for the Northern Emirates are representative of their smaller population.

¹³ <http://www.bq-magazine.com/economy/socioeconomics/2015/04/uae-population-by-nationality>

Figure 2.9: UAE Participation in Entrepreneurship by Gender, Residence and Region

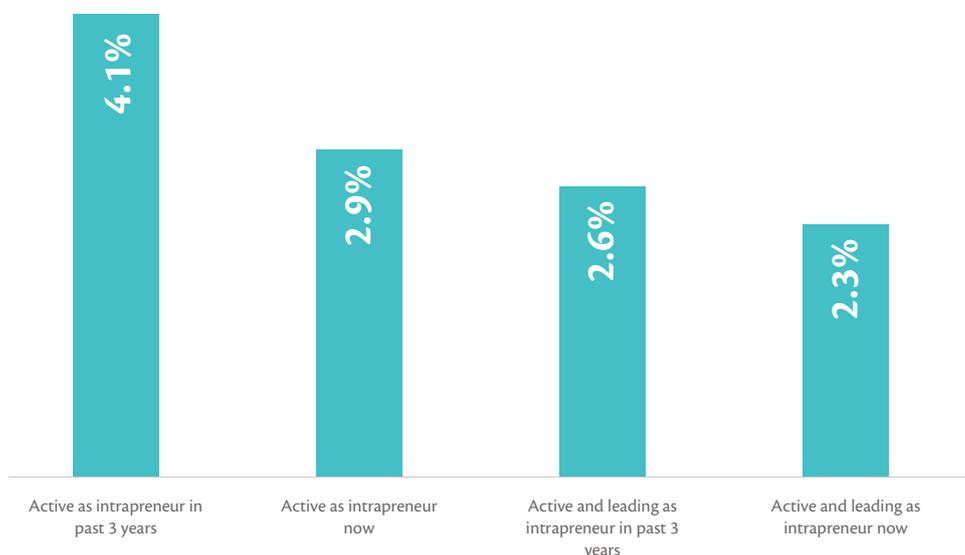


2.5 ENTREPRENEURIAL EMPLOYEE ACTIVITY IN THE UAE (EAA)

Entrepreneurship is a complex phenomenon, not only occurring with the creation of independent organizations, but also through employees' entrepreneurship within private companies and public agencies. This contribution is called 'intrapreneurship'. Intrapreneurship constitutes a critical complement of innovation, diversification and growth of any organization. Intrapreneurship flourishes specially when the organizations are managed under a horizontal system instead of a vertical one, because this allows the establishment of communication and interchange flows between the different hierarchical levels of the company or agency. This way, employees of different positions and ranges can channelize their ideas, proposals, projects and concerns in favour of their organization.

GEM has provided annual indicators related to intrapreneurship since 2013; as such these are the first indicators for the UAE. The UAE indicators for the year 2016 are presented in figure 2.10 below. Within the UAE, 4.1% of employees have undertaken intrapreneurial activities in the past 3 years, with 2.6% of the population leading such activities. Considering intrapreneurship activities in process at the time of the survey, 2.9% of employees are involved in such activities with 2.3% leading them.

Figure 2.10: Intrapreneurship indicators for the UAE in 2016







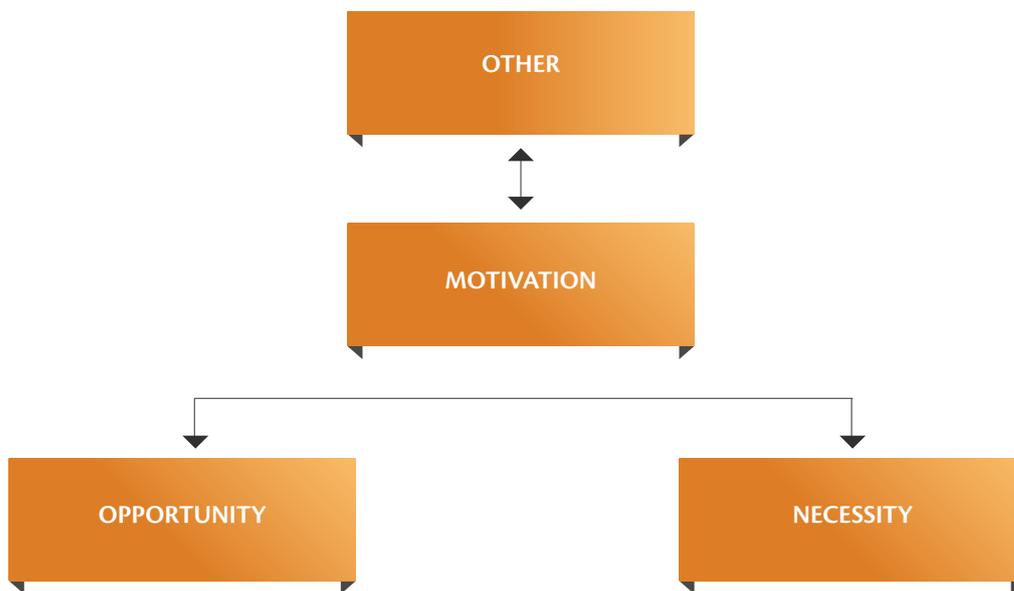
CHAPTER 3: ENTREPRENEURIAL ACTIVITY CHARACTERISTICS & ASPIRATIONS

In this Chapter we investigate the reasons why entrepreneurs engage in entrepreneurial activity (Section 3.1), the sectors where they are undertaking their activity (Section 3.2), the characteristics of the owners (Section 3.3) and their aspirations in terms of job creation (Section 3.4). The impact on innovation, competitiveness and internationalisation will be described in Chapter 4.

3.1 MOTIVATION FOR EARLY STAGE ENTREPRENEURIAL ACTIVITY

As discussed in previous sections, it is the quality of entrepreneurial activity rather than quantity, which determines its effective contribution to economic and social development of countries. GEM provides a comprehensive set of indicators that characterize entrepreneurial activities. The analysis allows a diagnosis about their quality and their strengths and weaknesses, which is valuable information for the design of public policies, training activities, strategic plans of the private sector and any other mechanism that may favour the development of the entrepreneurial sector. In this section, we offer detailed findings on entrepreneurship motives.

Entrepreneurial motivation is one of the determinants of the quality of businesses resulting from the early stage entrepreneurial activity generation. GEM classifies early stage entrepreneurial initiative motivated by necessity, opportunity and other motives.



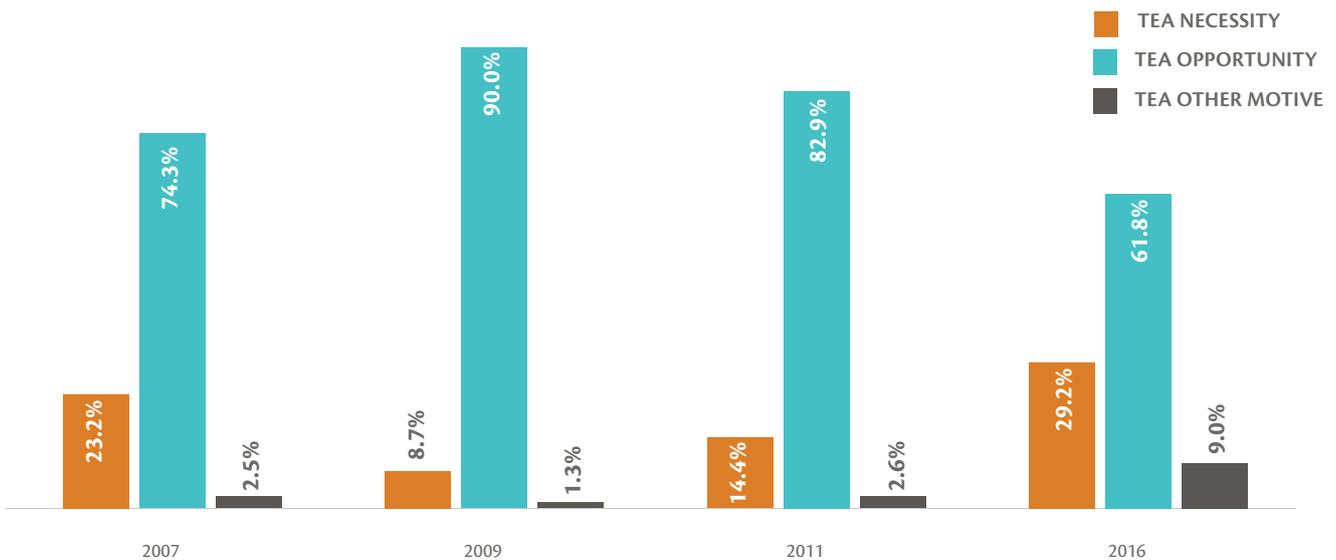
Potential entrepreneurs start their businesses by necessity when they have no alternatives to develop their professional career and when they create their own job activity to survive. Alternatively, potential entrepreneurs can launch businesses by creating opportunities when they spot a niche in the market or when they develop an original idea leading to an innovative opportunity. Entrepreneurs classify their start-ups as motivated by other factors when their case is a mixture of necessity and opportunity or when they continue a family business or engage in developing projects, etc.

The literature on this topic suggests that opportunity entrepreneurship tends to contribute more positively to economic development as it usually makes significant contributions in terms of innovation, productivity and competitiveness. However, for the purposes of this report, we do recommend judging solely based upon entrepreneurial motivation. Any analysis must also evaluate the market development level, the industrial sectors where the start-ups are occurring, the businesses' dimension, and many other variables that complete the picture of early stage of entrepreneurial activities. Thus, what can represent a large opportunity in the market of a developing economy may not be possible in a developed economy or globally.

GENERAL OVERVIEW

Figure 3.1 below shows that in 2016 the motives by opportunity-driven in early stage of entrepreneurial activities are the highest (61.8%) followed by necessity-driven (29.2%) and other motives (9%). However, these results are distinct to previous years. Opportunity-driven entrepreneurial activities have exhibited an inverted U-shape, increasing in 2009 then gradually decreasing whereas necessity-driven and other motives have followed a U-shape trend. This result suggests that since 2009, people who tend to start their businesses are not doing it to respond to a perceived market opportunity, but rather by necessity, which means they are somewhat forced into starting a business due to unfavourable circumstances.

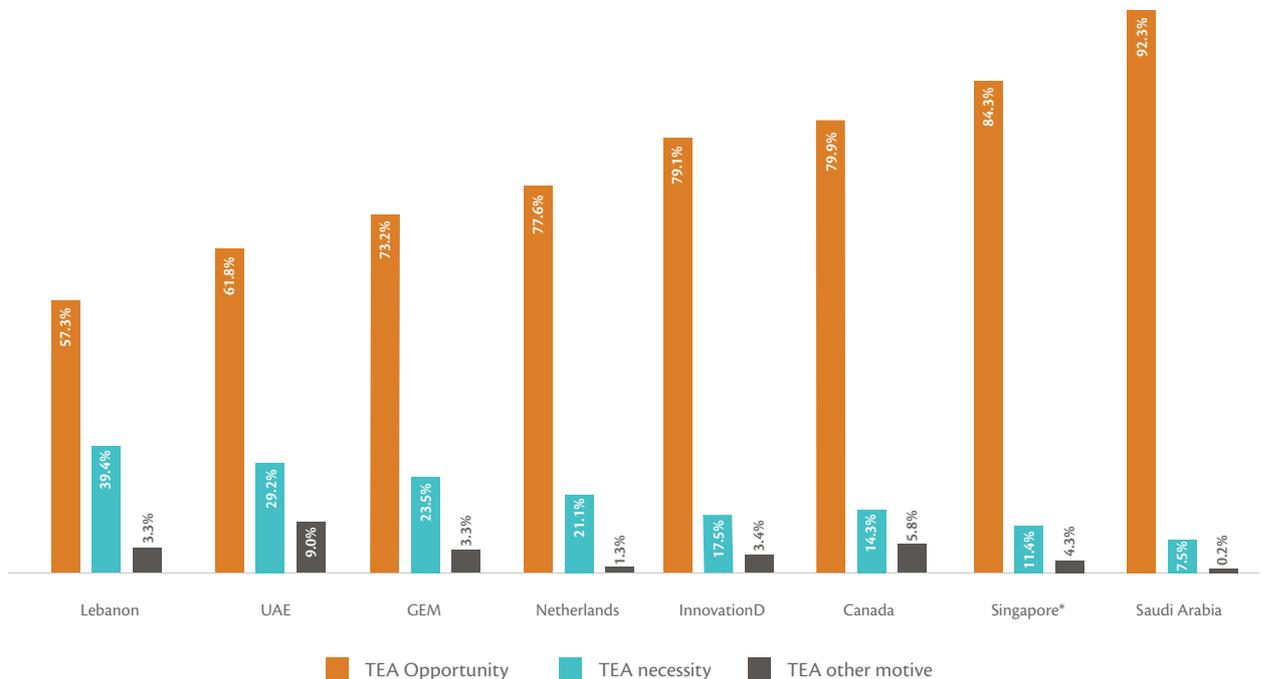
Figure 3.1: Distribution of motivation for early stage entrepreneurial activity in UAE and recent evolution



INTERNATIONAL POSITION

Figure 3.2 below shows the international comparison of the entrepreneurship motives in 2016. Saudi Arabia has the highest rate of entrepreneurship by opportunity (92.3%), followed by Singapore (84.3%). The UAE has the second lowest rate of entrepreneurship by opportunity (61.8%) after Lebanon (57.3%), which also has the highest rate of entrepreneurship by necessity (39.4%), followed by the UAE (29.2%). These results raise a concern for the UAE which opportunity-driven entrepreneurial activity is lower compared to all innovation-driven countries and their average (79.1%). Both Figures 3.1 and 3.2 suggest that people tend to start increasingly their businesses in the UAE not by opportunity but more by necessity, which is not the normal pattern in innovation-driven economies.

Figure 3.2: Comparison of distributions of motivation for early stage entrepreneurial activity



MOTIVATION FOR EARLY STAGE ENTREPRENEURIAL ACTIVITY: FURTHER ANALYSIS

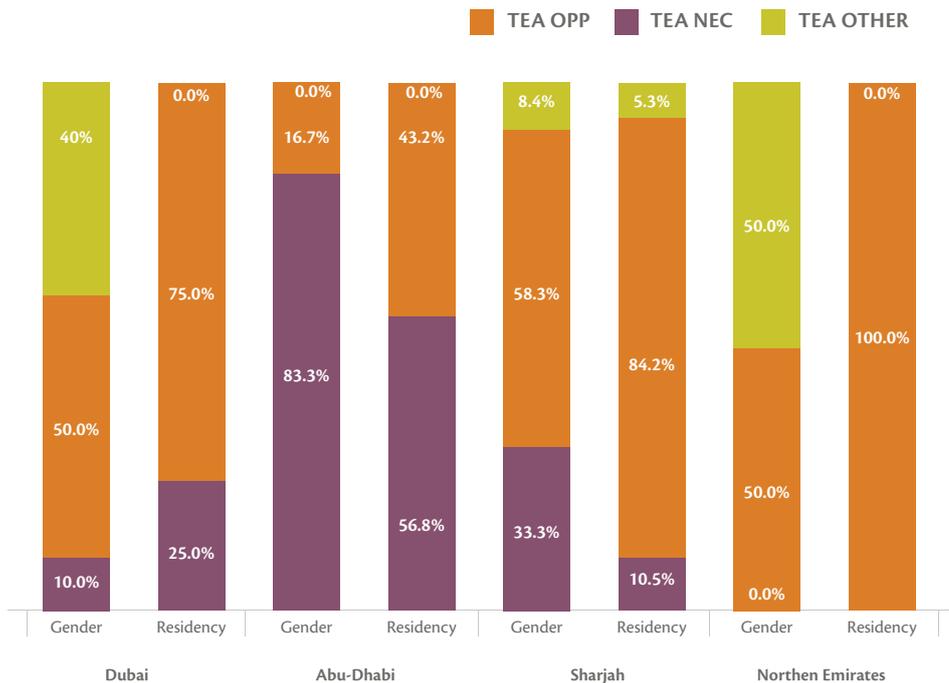
Figure 3.3 shows no significant differences between male and female entrepreneurs considering the motivation for early stage entrepreneurial activity. However, in 2016 necessity-driven motivation is shown to be higher for female (39.1%) than male entrepreneurs (27.9%).

Figure 3.3: Distribution of motivation for early stage entrepreneurial activity in UAE and recent evolution by gender



Figure 3.4 below presents the motives by region (Dubai, Abu Dhabi, Sharjah and Northern Emirates) and by residency (Emiratis | Non-Emirati expats). For non-Emirati expats, the Northern Emirates has the highest rate in entrepreneurship by opportunity (100%) followed by Sharjah (84.2%), and Dubai (75%). Abu Dhabi exhibits the lowest rate of non-Emirati expats starting by responding to an opportunity (43.2%). For Emiratis, the rates for entrepreneurship by opportunity are similar across the regions except in Abu Dhabi, which has the lowest opportunity driven activity by Emiratis (16.7%) and the highest activity driven by necessity (83.3%). This result may reflect the current economic situation in the Emirate, which is more sensitive to oil and gas prices unlike other regions.

Figure 3.4: Participation in Early Stage Entrepreneurship by Region and Residence



The main drivers of opportunity entrepreneurs are: 'having greater independence', 'increasing personal income', or 'just maintaining income' 'pursuing family business'. Table 3.1 below indicates that in the UAE, opportunity entrepreneurs are driven mainly by 'having greater independence' or 'increasing personal income'. For instance, 61.3% of those involved in nascent activity are doing it to increase their personal income, while 38.7% are looking for gaining greater independence. Yet this pattern is not the same for baby and established businesses. To 'gain more independence' is the primary driver for 82% of entrepreneurs involved in new business and of 92% of those having established businesses.

Table 3.1: Main motive to pursue opportunities by types of entrepreneurs and recent evolution

Opportunity e-ship	% 2009				% 2011				% 2016			
Type of entrepreneur*	SU	BB	TEA	EB	SU	BB	TEA	EB	SU	BB	TEA	EB
Greater independence	61.1	46.1	54.4	55.9	45.5	47.3	42.1	41.1	38.7	82.0	69.7	92.0
Increase personal income	33.7	46.6	39.5	39.0	49.0	45.3	52.7	52.1	61.3	18.0	30.3	8.0
Just maintain income	2.7	5.6	3.7	4.5	4.0	4.7	2.9	3.3	0.0	0.0	0.0	0.0
Family business	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	2.5	1.7	2.4	0.6	0.0	2.7	2.3	3.5	0.0	0.0	0.0	0.0

*SU = nascent entrepreneur (up to 3 months), BB = new or baby (42-3 months), TEA = early stage (42-0 months), EB = established (more than 42 months)

IDO index (only 2016) 1.4 (improvement driven entrepreneurs (%40.7) / necessity driven (%29.2))

Those entrepreneurs who are seeking to improve their situation, either through increased independence or through increased income (versus maintaining their income) are called by GEM improvement-driven opportunity (IDO) entrepreneurs. To assess the relative prevalence of improvement-driven opportunity entrepreneurs versus those motivated by necessity, GEM has created the Motivational Index (Improvement-Driven Opportunity / Necessity). The IDO index of the UAE is 1.4.

Figure 3.5 shows the UAE international position. UAE has the lowest rate in 'income increase' motive (13.5%) among the comparator countries including innovation-driven economies and GEM averages. UAE, however, has the third highest rate in 'having greater independence' motive (31.2%) after Netherlands (36.2%) and Singapore (35.3%).

Figure 3.5: International comparison of TEA opportunity

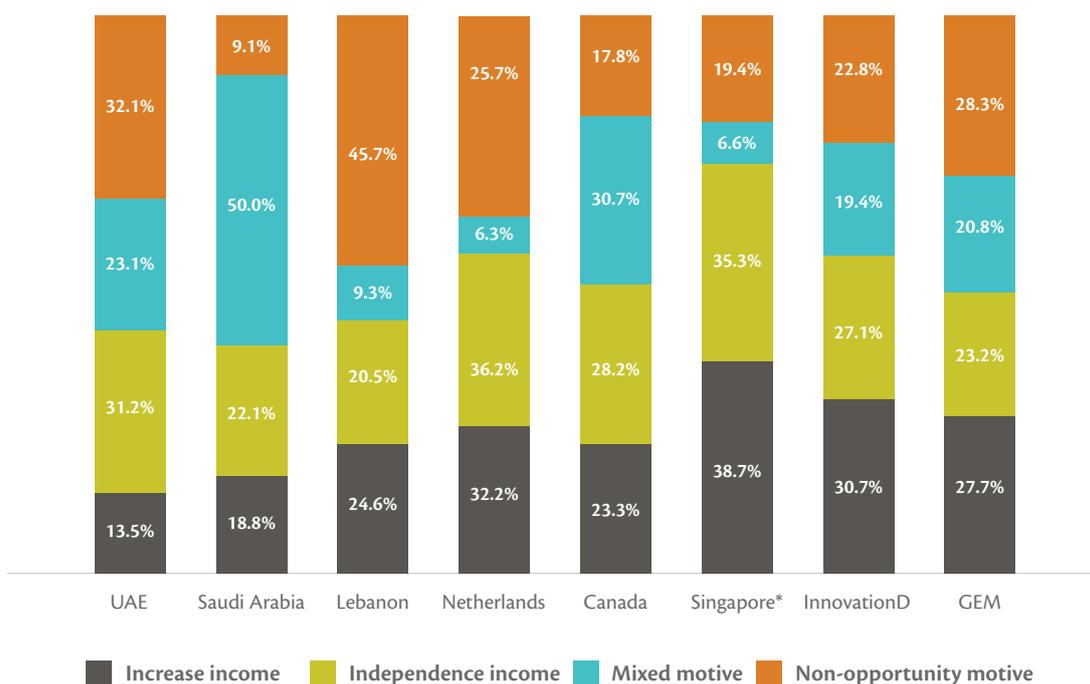
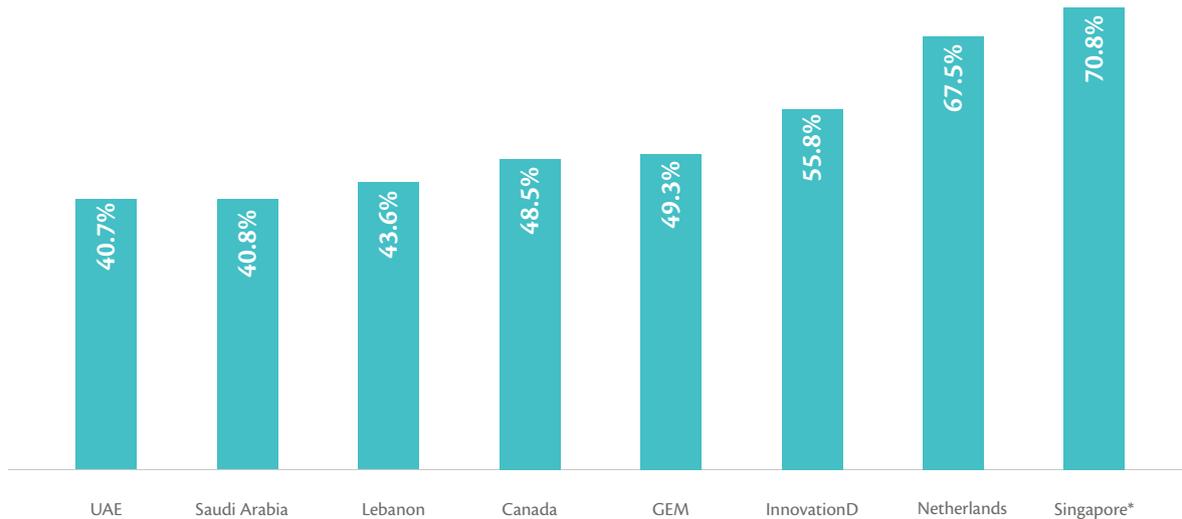


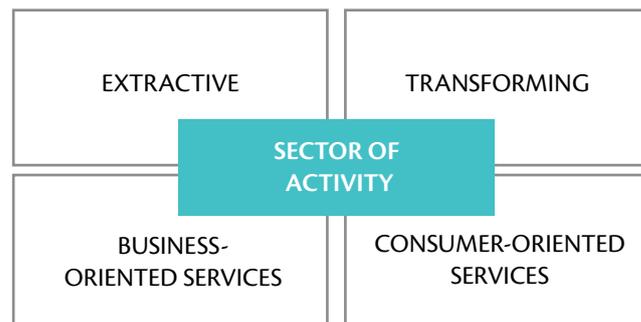
Figure 3.6 below presents the comparison of improvement-driven opportunity (IDO) in early stage entrepreneurial activity among the comparator countries with the UAE. It indicates that the UAE, with 40.7% of the TEA by improvement driven opportunity entrepreneurs, has the lowest rate, followed by Saudi Arabia and Lebanon whereas Singapore (70.8%) and Netherland (67.5%) have the highest rates. If we compare the IDO index in these countries, Saudi Arabia stands first (4.48), followed by Singapore (3.64), Canada (2.72), innovation driven average (2.51), GEM average (1.74) and the Netherlands (1.64). The UAE has the second lowest IDO index (1.4) after Lebanon (0.95).

Figure 3.6: % of TEA by Improvement driven opportunity entrepreneurs



3.2 SECTOR OF ACTIVITY

GEM considers four sectors to classify the types of business activities captured by the monitor: extractive, transforming, business-oriented services, and consumer-oriented services sectors.



Extractive activities comprise agriculture, forestry, fishing, timber harvesting and mining (including oil production). Transformative activities are those that change the form or location of physical items, such as construction, manufacturing, transportation and wholesale. Business services are activities in which the primary consumer is a business entity, including finance, insurance, real estate and consulting of all types. Customer-oriented activities primarily serve people and include all retail, lodging, restaurants and bars, personal services, repair shops, entertainment, leisure, recreation, health, social and educational services.

Figure 3.7 below presents the distribution of total early stage entrepreneurial activity (TEA) and established businesses activity (EB) by sector for the years 2009, 2010 and 2016. Most of the entrepreneurial activity in the UAE occurs in 'Transforming' and 'Consumer-Oriented' sectors. In 2009, the UAE's activities were highly concentrated in the 'Consumer-Oriented Services' sector, both for early-stage entrepreneurs and established businesses. In 2011, both early-stage entrepreneurs and established businesses shifted towards the Transformative sector (51.5% and 40.9% respectively). In 2016, the highest rate of early stage activity is in 'Consumer-Oriented Services' sector (45.3%), while the established businesses highest rate is in the Transformative sector with 50.6%. The low proportion of early-stage activity in 'Business Services' sector could be spotted as a growth opportunity for UAE entrepreneurs. Given the variety of services and their high added value, fostering entrepreneurial activity in business services sector can significantly contribute to economic growth and diversification.

Figure 3.7: Early Stage Entrepreneurial and Established Activities by Sectors, and Recent Evolution in UAE

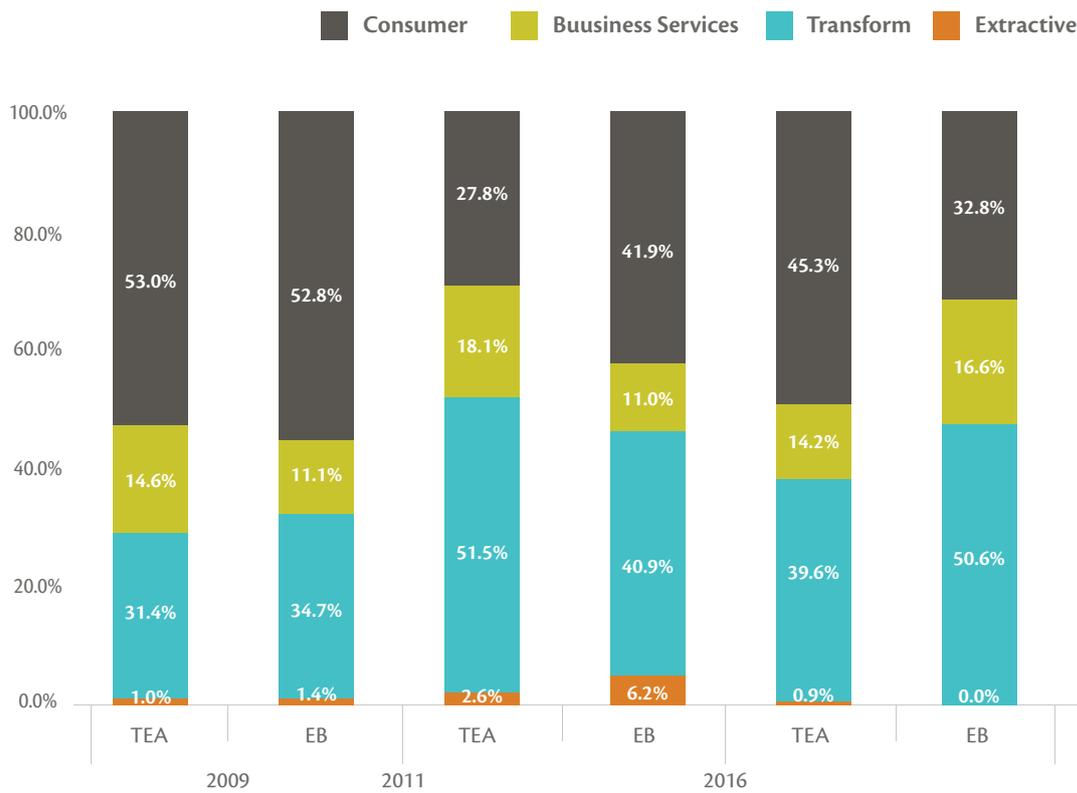
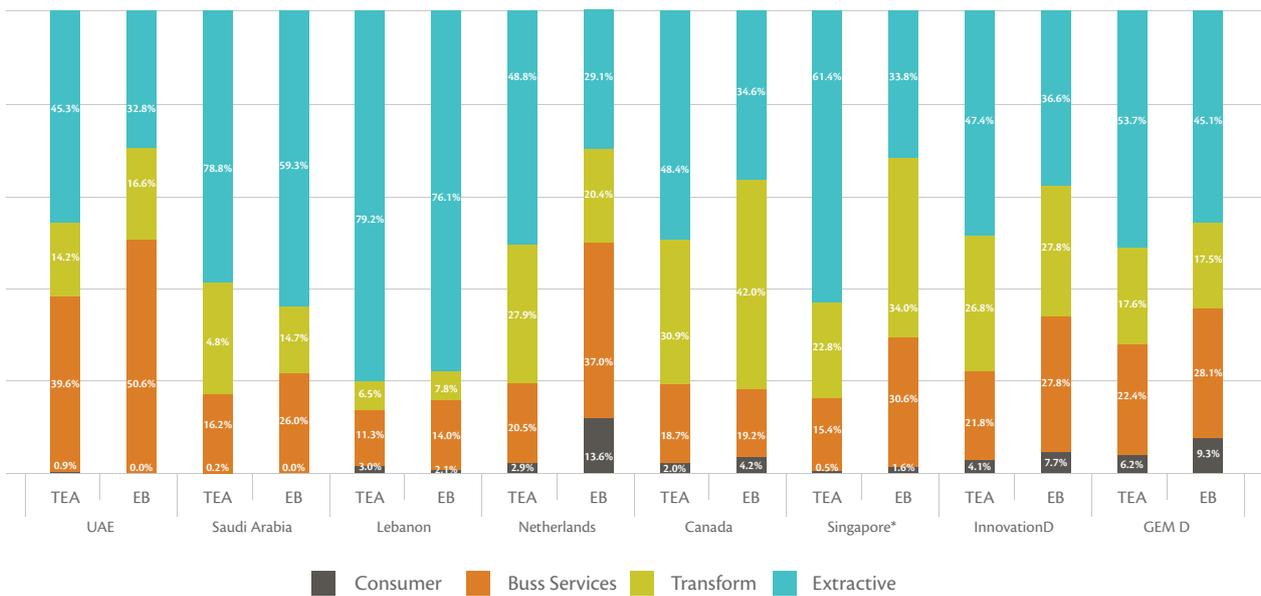


Figure 3.8 below presents an international comparison of early stage and established activities by sector. Most of entrepreneurial activities are started in the 'Consumer-Oriented' sector in all nations with the highest rate of 78.8% for TEA in Saudi Arabia. The UAE entrepreneurial activity in this sector is the lowest. The level of early stage entrepreneurial activity in the "Extractive" sector is generally low in all nations. Although the UAE has the highest rate in the Middle, with 14.2% the UAE has the lowest rate of early stage entrepreneurial activity in the "Business Services" compared to Canada (30.9%), the Netherlands (27.9%), Singapore (22.8%) and the innovation-driven average (26.8%). However, the UAE has the highest level of entrepreneurial activity in the transforming sector with an early-stage entrepreneurial activity rate of 39.6% followed by GEM average (22.4%) and innovation-driven economies average (21.8%). This result could be explained by the significance of the construction sector in the UAE.

Figure 3.8: International comparison of entrepreneurial activity by sector



3.3 OWNERS AND THEIR CHARACTERISTICS

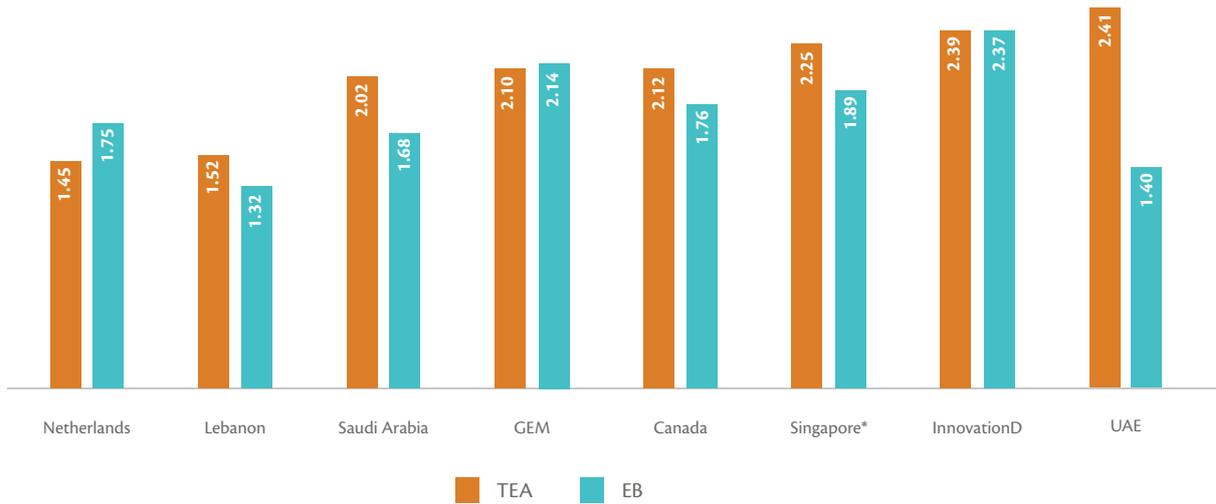
With few exceptions, entrepreneurial activities are generally commenced by an independent and single entrepreneur or by small entrepreneurial teams. This is probably one of the main reasons that prevent entrepreneurial activity from having significant impact on countries' economies. The situation in the UAE is not different. Figure 3.9 below shows that most of entrepreneurial activities are by one entrepreneur with more than 80% of the cases for established businesses while only nascent businesses tend to be started by teams of 3 owners in more than 50% of the cases. This comparison indicates that teams generally start new firms whereas established firms tend to be run by one owner. This is plausible, as new firms require a set of skills and knowledge that exist in a team, whereas one owner may lead the consolidation process.

Figure 3.9: Distribution of the number of owners for UAE businesses at different stage of activity the year 2016



Figure 3.10 below shows the international position with this regard. In most countries, big teams are involved in TEA activities except for the Netherlands where TEA is undertaken by average teams of 1.45. The UAE has the highest number of owners in TEA, followed by innovation-driven economies average (2.39) and the widest gap in number of owners between early stage entrepreneurial activity (2.41) and established businesses (1.4). The innovation driven economies have in average the biggest teams running established businesses (2.37).

Figure 3.10: Average number of owners for early stage (TEA) and established businesses (EB)



This finding is well supported in Figure 3.11 below. Average number of owners in total early stage businesses has steadily remained same over the years whereas the average number of owners in established businesses has decreased over the same period. Issues within founding teams might have increased the mortality of few new ventures, which could explain their failure in consolidating their business and the weak number of established businesses in 2016 observed in the previous chapter.

Figure 3.11: Average number of owners for early stage and established business activities' and recent evolution in UAE

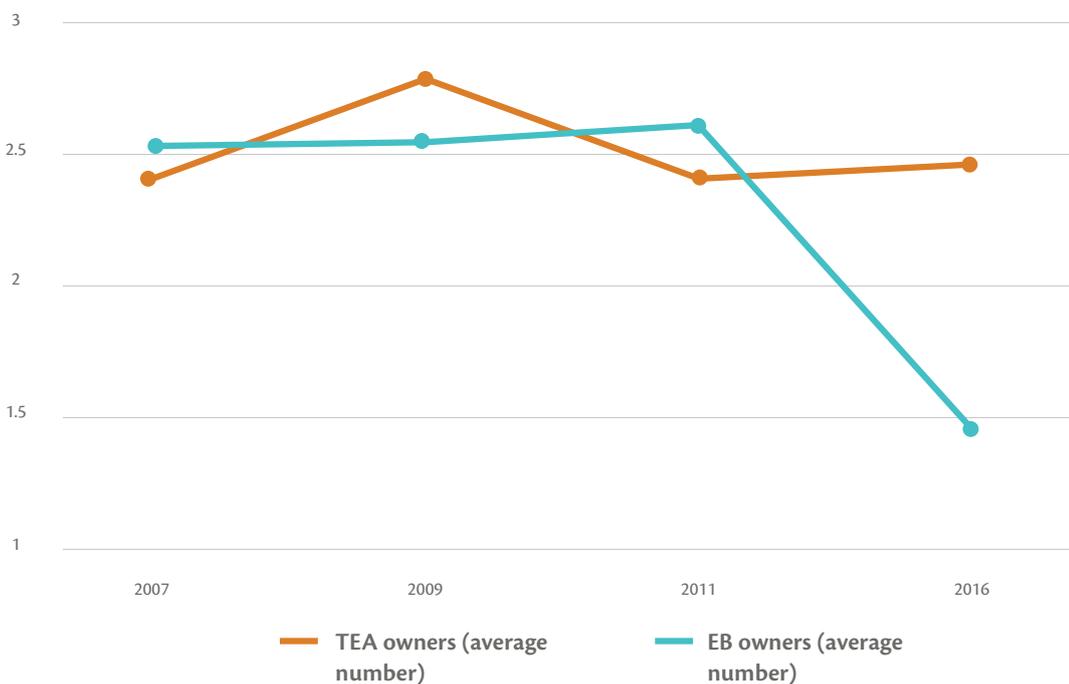


Table 3.2 below describes the characteristics of owners from gender, education and income level perspectives. No significant variations are observed, except the fact that the number of owners tend to be higher for TEA by women, post graduate degree holders and for those having an income level more than 192,000 AED and less than 240,000 AED.

Table 3.2: Average number of owners for early stage entrepreneurial activity the year 2016 by gender, educational level and income level

Complementary variables		Average number of owners (TEA)
Gender	Men	2.41
	Women	2.48
Education	Primary education	0.00
	Preparatory education	2.56
	Secondary education	1.80
	University degree holder	2.59
Income	Post graduate degree holder	3.41
	0 AED- 60000 AED	2.46
	60001 AED -96000 AED	2.53
	96001 AED -144000 AED	2.76
	144001 AED -192000 AED	1.72
	192001 AED -240000 AED	3.74
	More than 240000 AED	2.74

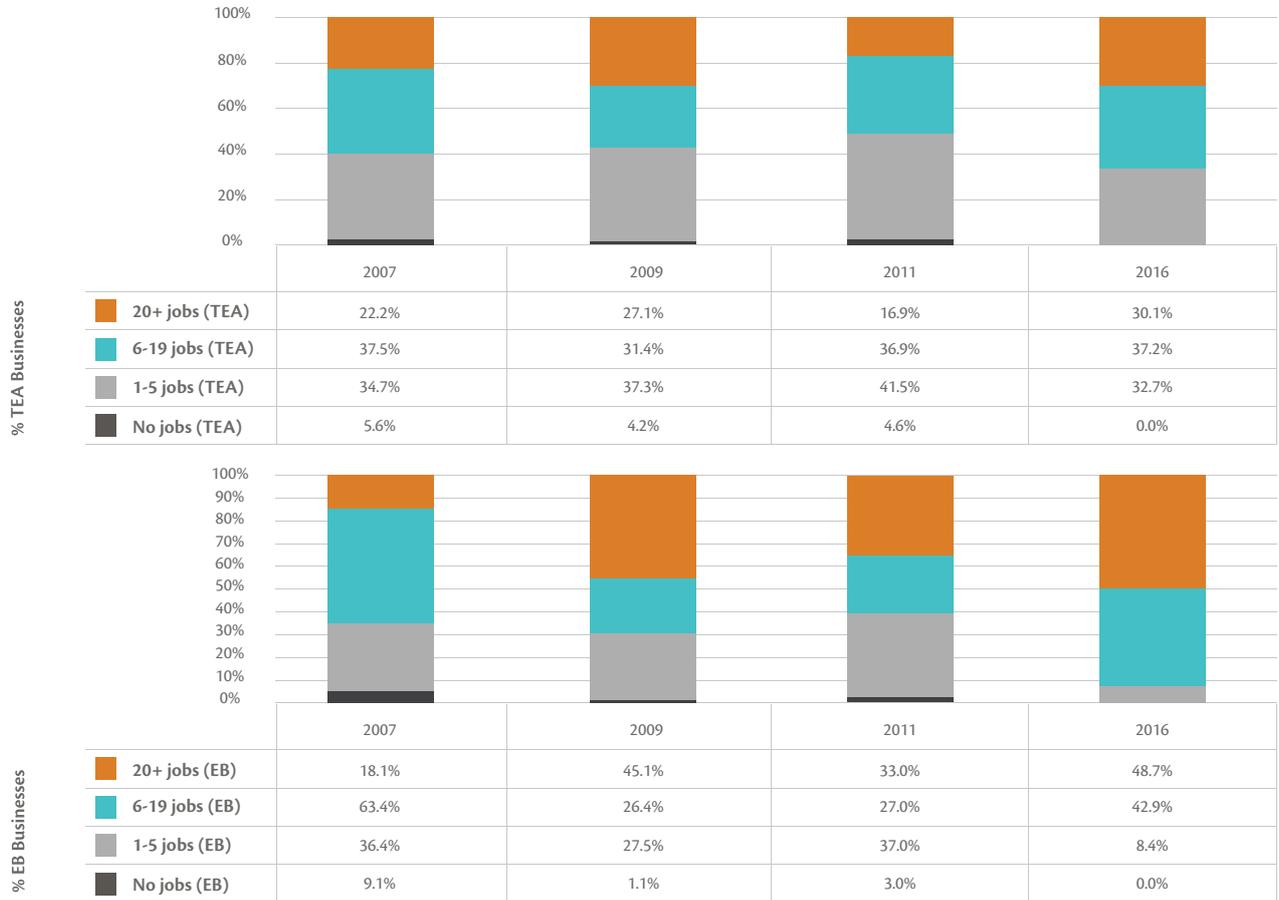
3.4 JOB CREATION

GEM collects information on the actual jobs created by early stage entrepreneurs and established firms, as well as the expectations of job creation five years from the year of the report. The difference between these measures suggests growth expectations.

Entrepreneurial activities are by definition small businesses, which usually do not have large workforces, especially at their founding. Interestingly, Figure 3.12 below shows that in the UAE, the percentage of early stage entrepreneurial activity with 0 employees has significantly dropped from 5.6% in 2007 to 0% in 2016. In 2016, 37.2% of the early stage entrepreneurs have created 6 to 19 jobs in average. The share of early stage entrepreneurs that have created more than 20 jobs have also increased since 2007 from 22.2% to reach 30.1% in 2016. In 2011, this share has dropped to 16.9% most likely because of the financial crisis. Hence, we can conclude that the job creation by early stage entrepreneurial activities is a positive feature of entrepreneurship in the UAE.

Entrepreneurial activities tend to create more jobs as they get consolidated or, in other words, their scope and scale of job creation tends to increase as they gain market experience. The UAE is no exception as shown in Figure 3.12 below. The established entrepreneurial activity in the UAE confirms this positive trend. The percentage of activities with no employment has passed from 9.1% in 2007 to 0% in 2016. Similarly, activities employing 1 to 5 employees have decreased from 36.4% in 2007 to 8.4% in 2016. Almost half of the established businesses employ more than 20 employees in 2016. When the two groups are combined, the size of employment by entrepreneurial activities at all stages is growing in in the UAE, which is a desirable trend.

Figure 3.12: Actual number of jobs created by Early-stage entrepreneurial activities and Established Businesses



Strenght: significant growth in actual job creation by early-stage entrepreneurial activities and established businesses



Considering job creation expectations, which reflect growth expectations by early stage or established entrepreneurs, Figure 3.13 below suggests that for medium to high growth entrepreneurs (those projecting to employ more than 6 people in the next five years) growth aspirations are evident. For instance, 91.6% of established businesses employ more than 6 employees in 2016 and 96.7% of them expect to employ such a high number in the next five years. There has been an optimistic trend for medium to high growth established business since 2009. Yet, the optimism of medium to high growth early stage entrepreneur is less obvious. In fact, in 2009 58.5% of early stage entrepreneurs were employing more than 6 people while 87.9% were aspiring to employ the same number in the next five years. In 2016, those employing more than 6 people were 67.3% while those projecting to employ same number were 79.3%. If we focus on the high growth entrepreneurs at early stage (those who employ more than 20), in 2009 there comprised 27.1% of high growth early stage entrepreneurs, while 59.6% were expecting to employ more than 20 people in the next five years. In 2016, 30.1% of early stage entrepreneurs employed more than 20 people and only 36.8% aspired to have such level of employment in the next 5 years.

Figure 3.13: Expected numbers of employees by TEA and EB and their recent evolution

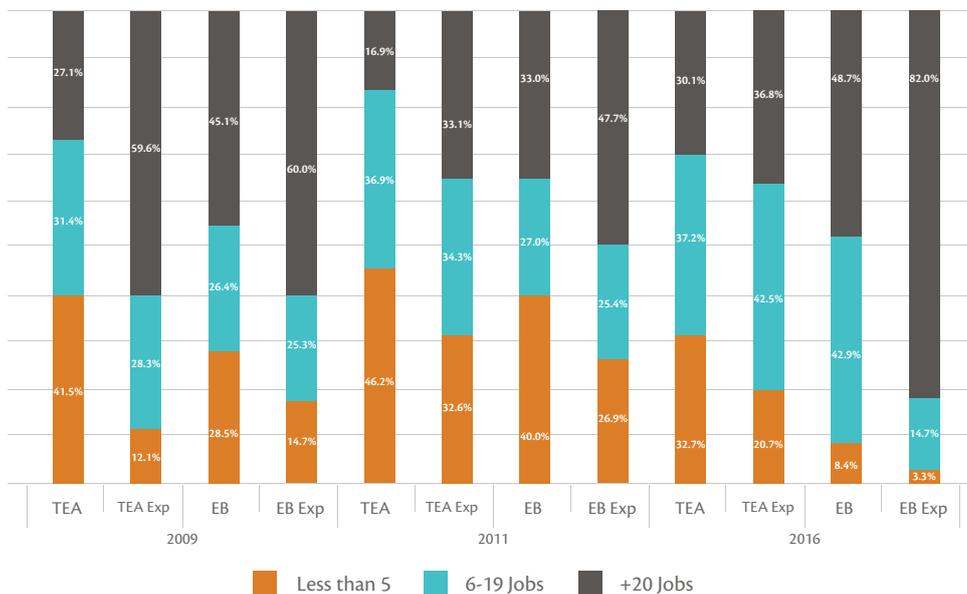
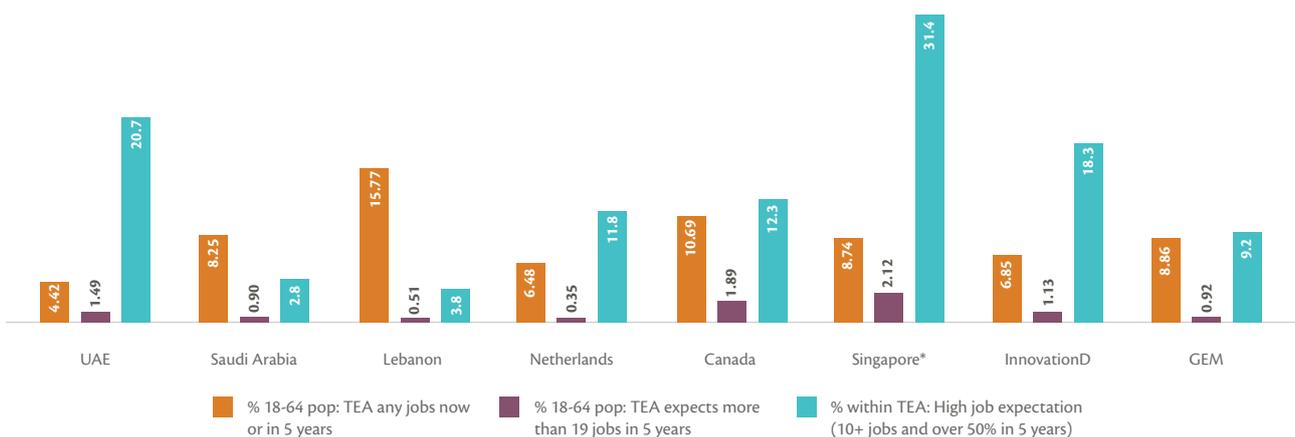


Figure 3.14 below presents the international position of UAE jobs creation expectation by early-stage entrepreneurs, detailing the percentage of adult population involved in early stage entrepreneurial activities with “any jobs now or in 5 years”, “the % within the adult population expecting to employ more than 19 jobs in 5 years” and “the % within TEA of those with high job expectation” (10+ jobs and over 50% in 5 years). Although the UAE has the lowest rate compared to other countries for the % of adult population involved in early stage entrepreneurial activities with “any jobs now or in 5 years” (4.42%), while Lebanon has the highest rate (15.77%), the UAE rate for the % of adult population “expecting more than 19 jobs in 5 years” is comparable to Canada and Singapore and slightly higher than innovation-driven economies and GEM averages. Moreover, the % within TEA of those with high job expectation” (10+ jobs and over 50% in 5 years) is low across the comparators countries including innovation-driven economies and GEM averages. The international comparison confirms the previous conclusion we drew on the positive trend of job creation by UAE entrepreneurial activities.

Figure 3.14: International comparison for job creation and aspiration by TEA entrepreneurs







CHAPTER 4: INNOVATION AND COMPETITIVENESS

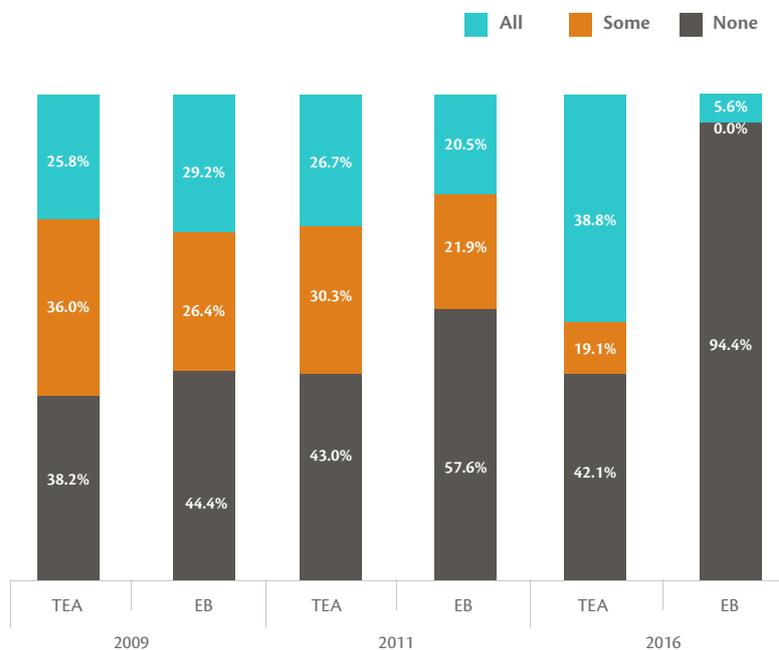
Innovation and competitiveness are closely connected concepts to entrepreneurship. Entrepreneurs can disrupt market equilibrium through the introduction of new product-market combinations, creating new market niches and creative ways to offer, deliver and promote their products, better fulfil the consumers' needs and drive out less productive firms, which together make the economy even more competitive.

4.1 INNOVATIVE COMPONENTS

GEM estimates the presence of innovative components at early stage and established firms by asking owner-managers how many (potential) customers consider the product/service offered by their companies as new or unfamiliar. The distribution of responses about this question and its recent evolution are showed in Figure 4.1. The higher the percentage of responses for the category 'All', the greater the presence of innovative products/services.

In the UAE, the highest percentage of responses occur in the 'None' category; roughly around 40% of the entrepreneurial firms since 2009 do not offer an innovative product and/or service to their customers. Of course, this indicator may not provide a clear representation of the innovative activities. For example, customers who are exposed to international markets may know a product or service, yet it does not mean the same product or service exists already in the UAE, in which case entrepreneurial firms are offering a local incremental innovation which is not recognized. Nevertheless, it is a finding that suggests that there should be more attention from policy makers as the existence of innovative components impacts the competitiveness level of the UAE economy.

Figure 4.1 Presence of innovative component in early stage and established businesses and its recent evolution



When the three categories are compared for early-stage entrepreneurs over the years, we can see that the category of 'Some' has decreased whereas the one of 'All' has increased, which indicates a relative improvement in terms of innovative component despite the none category has also steadily increased over the same period. Considering that not all entrepreneurial undertakings introduce products or services that are new to some or all customers, we conclude that the proportion of early-stage entrepreneurs in the UAE, aimed at offering new products and/or services to their customers, are somewhat increasing their offer over the period. However, the situation is of concern when it comes to established businesses. The percentage of established businesses without any innovative component in their products and/or services has steadily increased since 2009 from 44.4% to reach 94.4% in 2016.

Figure 4.2 shows the international position of the UAE. While the UAE early stage entrepreneurial activities have the highest rate of “products new to all customers”, its established businesses have the lowest rate.

Figure 4.2: Presence of innovative component in entrepreneurial activities – international comparison

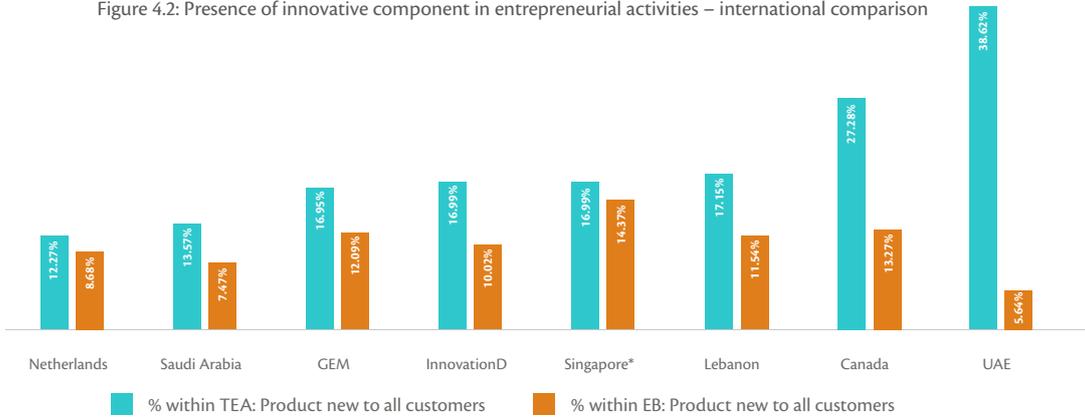
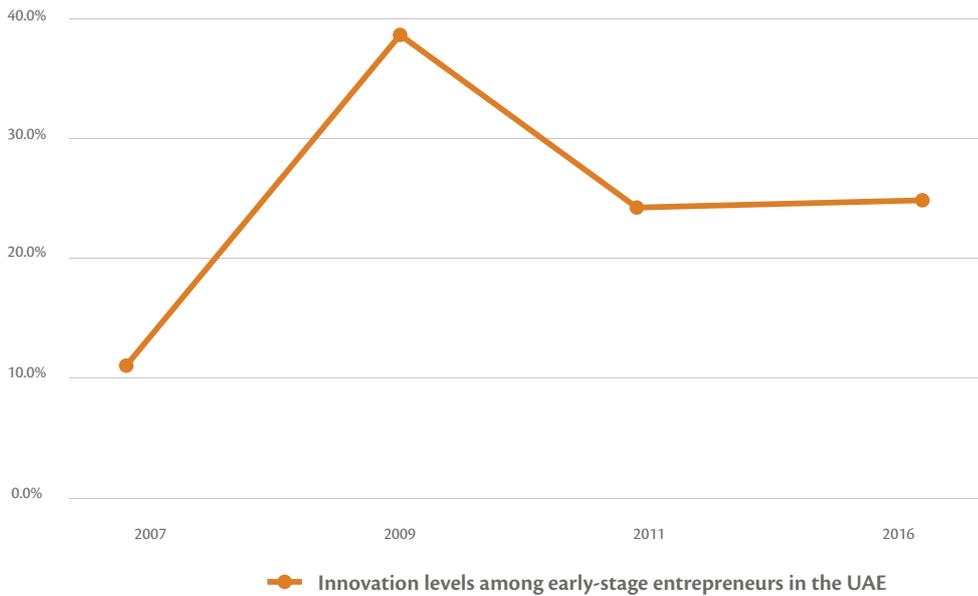


Figure 4.3 presents the level of innovation among early stage entrepreneurs in the UAE region offering products that are new to all/ some customers AND offered by few/ no other businesses. This indicator is the highest by a substantial margin in 2009. Since 2011, the indicator is stable.

Figure 4.3: Innovation Levels among TEA in the UAE



Focus: the low level of innovative component in products and services offered by established businesses

Recommendation: more initiatives to support R&D transfer between universities, research institutes and industry



In the UAE, the innovative activities are not taking place in sectors related to new technologies as reflected in Table 4.1 below. Although, innovation can take place in low-technology sectors, these findings need particular attention from policy makers, since the priority is to move towards a knowledge economy supported by science and technology innovation.

Tabled 4.1: Technological level of the early stage and established businesses and its recent evolution

Complementary variables	Average number of owners (TEA)				Established businesses (% EB)			
	2007	2009	2011	2016	2007	2009	2011	2016
Technological level	2007	2009	2011	2016	2007	2009	2011	2016
No/Low Technologies	100.0	97.0	97.6	100.0	100.0	99.0	97.7	97.0
Medium Technologies	0.0	2.5	1.1	0	0	0.0	2.3	3.0
Hi-Tech	0	0.5	1.3	0	0	1.0	0	0

4.2 USAGE OF RECENT TECHNOLOGIES

Another important feature to assess the quality of the entrepreneurial activity in a country is the modernity of the technologies used by entrepreneurs to produce their goods and services. GEM estimates the proportion of businesses that use the very latest (< 1 year), new (1-5 years) and old technologies (> 5 years). Figure 4.4 below presents the comparative results over the period of 2009, 2011 and 2016. There is a striking difference in terms of technology modernity between early stage entrepreneurial activities and established businesses. Overall, more than 50% of early-stage entrepreneurial activities are using very latest or new technologies. However, established businesses rely mainly and almost only on old technologies. This situation has deteriorated with time. In 2009, 6% of established businesses were using the latest technologies and 32.8% new technologies; in 2016 these rates reached respectively 0% and 2.3%. Unless they start using "New" or "Very Latest" technologies, established businesses might become less competitive in the future.

Figure 4.4: Evolution of technologies Antiquity used by early stage and established businesses

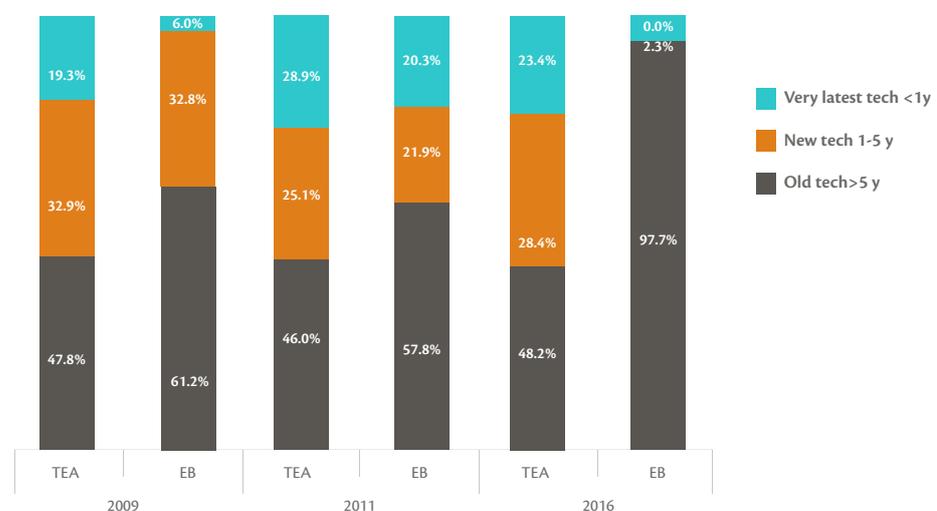
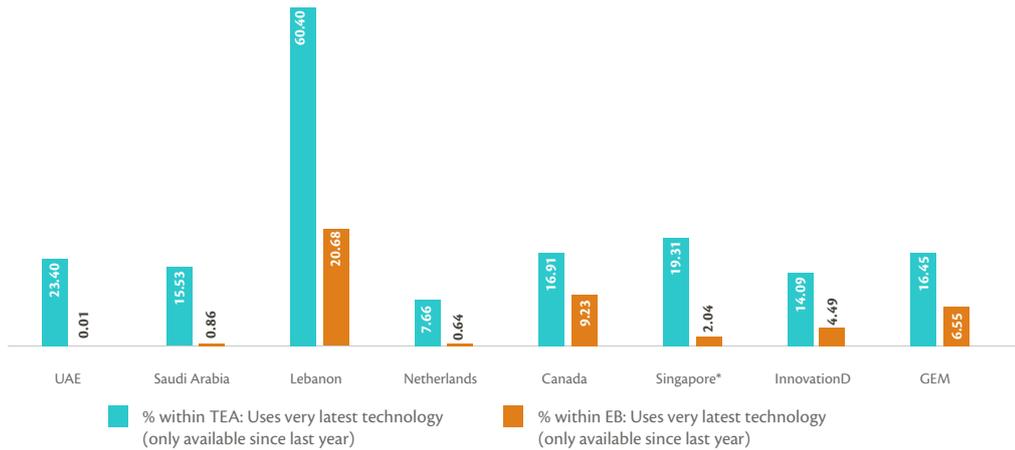


Figure 4.5 below presents the international comparison on the usage of recent technologies. For early stage entrepreneurial activities, Lebanon is leading in terms of introduction of very recent technologies, followed by the UAE. For established businesses, it is also Lebanon that introduces the most very recent technologies, followed by Canada. However, the UAE, Saudi Arabia and the Netherlands use the most old or out-dated technologies in established businesses. New measures should be introduced to incentivize established businesses to update the technologies they use to preserve their competitiveness in the future.

Figure 4.5: Use of very recent technologies by entrepreneurial activities – international comparison



Recommendation: measures and incentives for businesses to invest in innovative processes and new technologies



Focus: the old and out-dated technologies used by established businesses to produce their goods or services



4.3 COMPETITIVENESS

Competitiveness is a complementary feature of innovation, as innovative firms tend to be more competitive. GEM estimates the competitiveness of entrepreneurial and established firms by measuring the proportion of businesses that consider there are few, none or many firms offering the same products or services in their target markets.

Figure 4.6 below presents the estimated degree of competition over the period 2009, 2011 and 2016. Most early stage entrepreneurial activities have “Many”, with less having “Few” competitors, and the degree of competition is even higher for established businesses. This is plausible as businesses often face tougher competition as they grow. For the established businesses, the lack of innovation and the use of out-dated technologies may compound competitiveness problems. The degree of competition is also steadily increasing over the years for entrepreneurs in all stages. In 2016, none of them has no competition, 66.1% of early stage entrepreneurs and 95.3% of established entrepreneurs consider having many competitors.

Figure 4.6: Evolution of the competition faced by early stage and established businesses

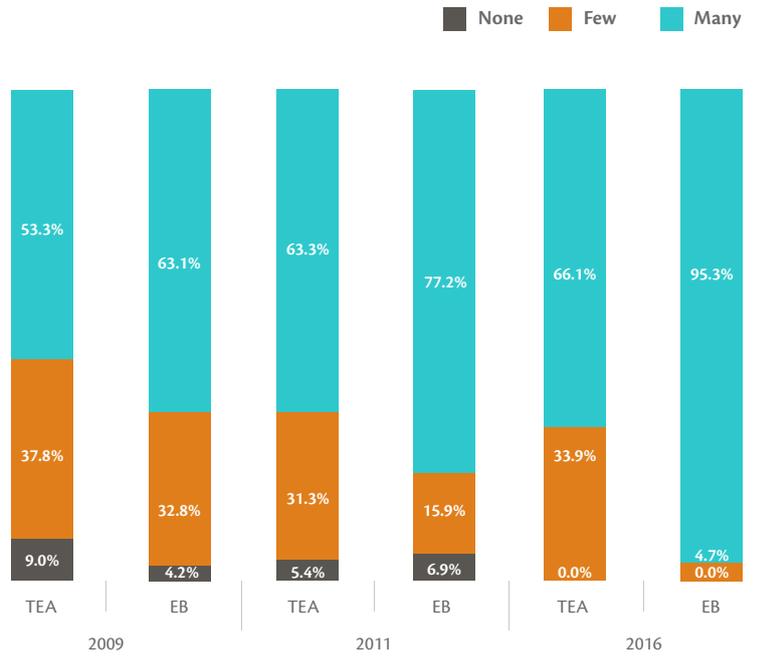
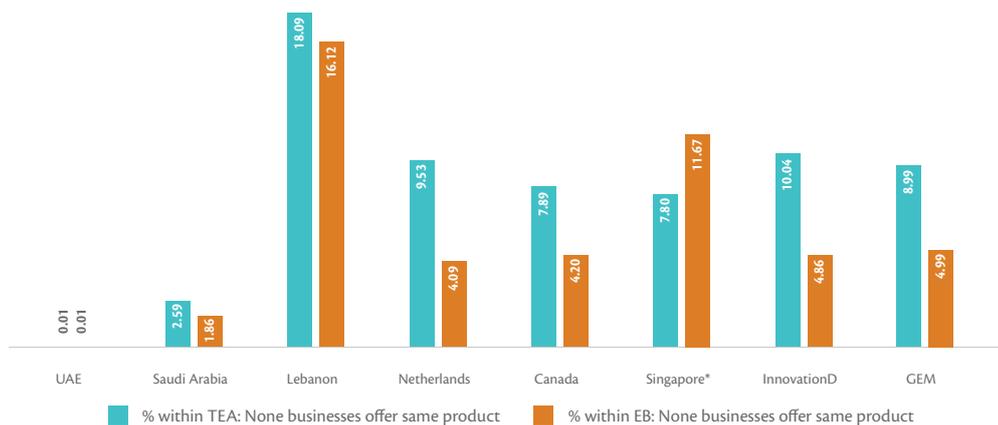


Figure 4.7 below details the international comparison of the competition faced by early stage entrepreneurs and established businesses. UAE early stage entrepreneurial activity and established businesses are the least competitive across the comparator countries. This suggests that drastic measures should be considered to improve entrepreneurs' competitiveness.

Figure 4.7: Competitiveness of entrepreneurial activities – international comparison



4.4 INTERNATIONALIZATION

Internationalization is also an important factor to assess the quality of business activities and more relevant in today's global context than ever. GEM estimates entrepreneurs' involvement in export activities by asking them about the approximate percentage of sales out of the country or export intensity.

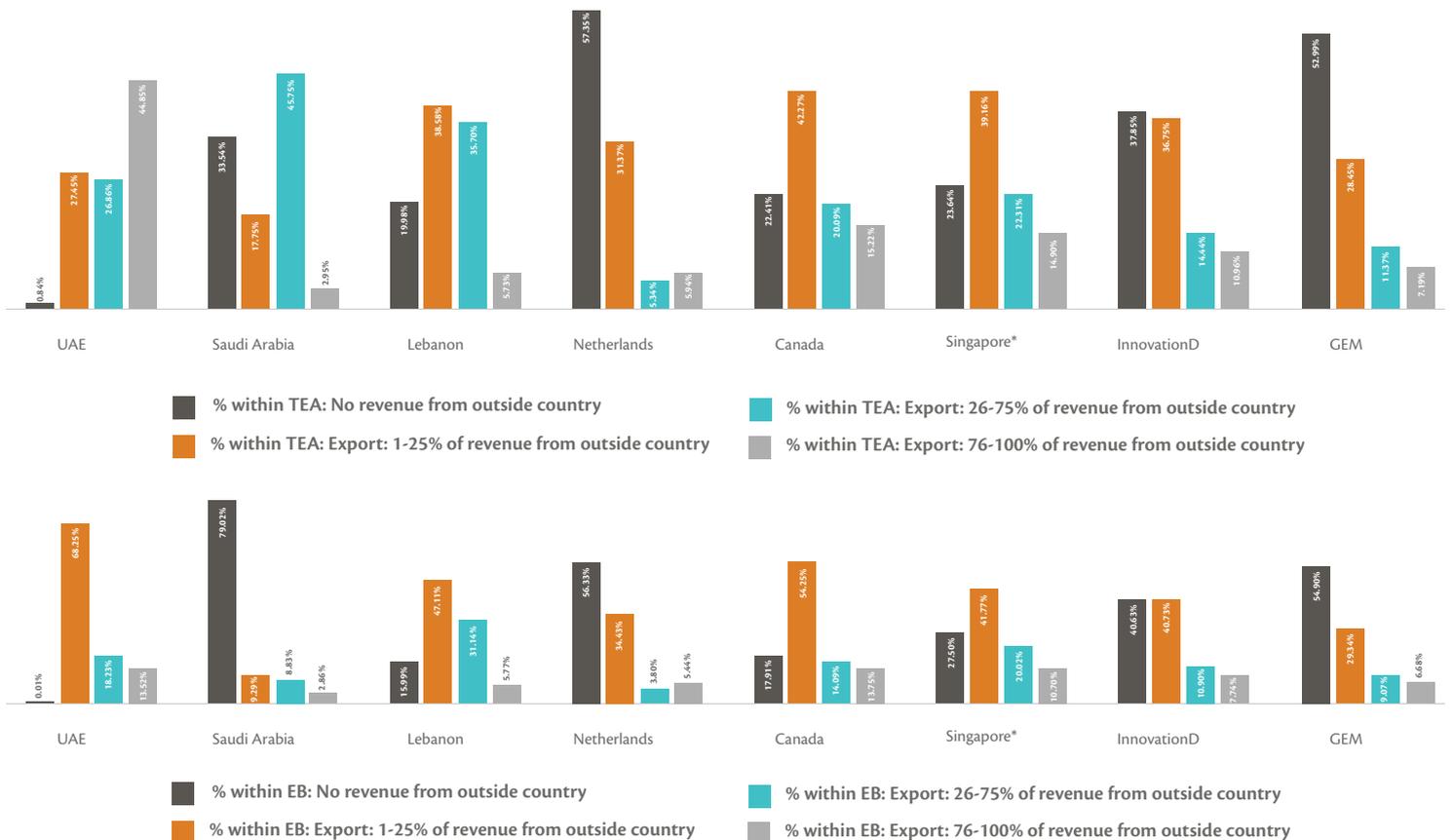
Figure 4.8 below indicates that there was a considerable increase in exportation intensity between the years 2009 and 2016 for both early-stage entrepreneurs and established businesses. In 2009, 32.3% of early stage entrepreneurial activities and 25.5% of established businesses were not internationalized, while in 2016 this figure has dropped to respectively 0.8% and 0.0%. The figure also shows higher export intensity for early stage entrepreneurs compared to established businesses. "In 2016, 44.8% of early stage entrepreneurs have more than 75% of their sales out of the country, compared to only 13.6% of the established businesses. On the other hand, 68.2% of the established businesses have under 25% of their sales occurring out of the country, while only 27.5% of the early stage entrepreneurs do so; it seems that established businesses are increasingly addressing local demand besides their export activity.

Figure 4.8: Recent evolution for export intensity for early stage entrepreneurial activities and established businesses



Figure 4.9 below presents the international position for export activity intensity. Although export is not always an easy activity, UAE early stage entrepreneurs seem to rely more on exports and internationalisation in terms of revenue, compared to all other countries. This result is explained by the size of the UAE local market. However, it might imply bigger risks for entrepreneurs and fewer opportunities to develop local markets. Better balance between export and local sales is reflected in the cases of Canada and Singapore.

Figure 4.9: Export intensity for early stage entrepreneurial activities and established businesses – International comparison





CHAPTER 5: UAE ENTREPRENEUR PROFILE

5.1 INTRODUCTION

One of the strengths of the GEM project is that it interviews people instead of collecting data from secondary sources or business registers. This provides the opportunity to collect information on the characteristics of the entrepreneurs to build a yearly profile of the protagonists of the entrepreneurial phenomenon so that the researchers, policy makers, media and the rest can track its evolution. This chapter presents the UAE entrepreneurs' profile and their personal characteristics in 2016.

From a gender perspective, men are proportionally more involved in early stage entrepreneurial activities. Table 5.1 and Figure 5.1 below show male and female TEA rates considering as a base the total adult population as well as the respective populations of men and women at the country. Out of the total adult population, male TEA (4.5%) is 275% higher than female TEA (1.2%). When looking at the respective men and women populations in the country, the male rate is 6.6%, which is only 78% higher than the female rate at 3.7%. Both TEA and nascent males and females' entrepreneurs are decreasing in 2016 compared to the previous years.

Table 5.1: Participation in early stage entrepreneurial activity by gender in the UAE in 2016

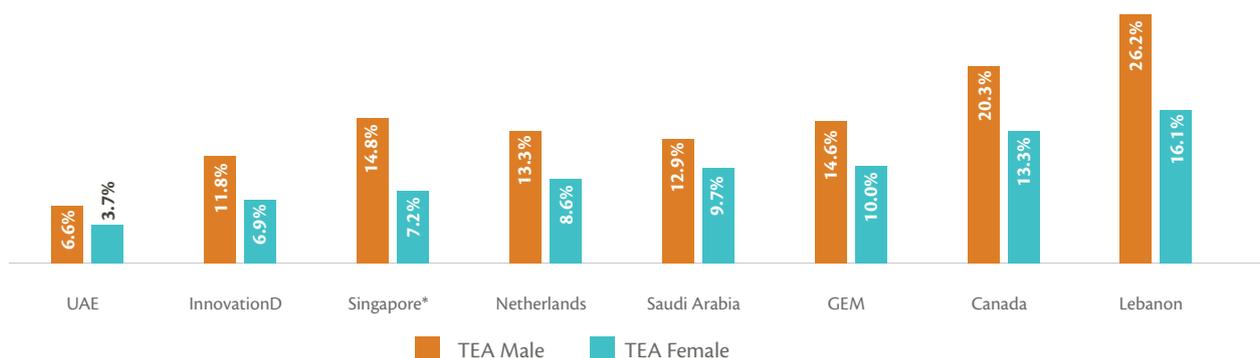
MALE	Base: total population 18-64	Base: male population 18-64
Involved in TEA	4.5%	6.6% (TEA male)
Nascent entrepreneurs	1.0%	1.6%
Involved by opportunity	2.8%	4.1%
Involved by necessity	1.2%	1.8%
FEMALE	Base: total population 18-64	Base: female population 18-64
Involved in TEA	1.2%	3.7% (TEA female)
Nascent entrepreneurs	0.2%	0.8%
Involved by opportunity	0.7%	2.2%
Involved by necessity	0.4%	1.4%

Figure 5.1: Recent evolution of main indicators related to early stage entrepreneurial activity by gender



Figure 5.2 below demonstrates that female entrepreneurial activity is proportionally lower than male activity in all the comparator countries. Lebanon has the highest rate of female TEA (16.1%) while the UAE has the lowest rate (3.7%).

Figure 5.2: Total early stage entrepreneurial activity by gender (2016), ordered by TEA female – international comparison



Considering age, Table 5.2 below indicates that the UAE potential entrepreneur is approximately 35 years' old. With a standard deviation of about 9 years, this suggests that people aged 26 to 44 years old have constituted a significant proportion of the potential entrepreneurial population during the last three years. There is no observable difference between the early stage entrepreneurs and established owner-managers, as both are around 38 years' old. However, the standard deviation for the established owners/managers is of 5.78 years, while it is of 8.09 years for TEA entrepreneurs. Finally, business owner-managers that abandoned a business activity in 2016 are in average 36 years old with a standard deviation of 7.93 years. This means that when there was an exit from business it was not generally for retirement.

Table 5.2: Mean age of people involved in entrepreneurial activity in the UAE

Collective	Age Mean	Age Std. Dev.
All population aged 64-18	34.06 years	8.71 years
Potential entrepreneurs	35.04 years	8.95 years
Nascent entrepreneurs	37.67 years	7.59 years
New entrepreneurs	38.29 years	8.24 years
TEA entrepreneurs	38.16 years	8.09 years
Established business owner-managers	37.18 years	5.78 years
Exited business owner-managers	36.65 years	7.93 years

Figure 5.2 below suggests that there have been no substantial changes between 2009 and 2011. However, overall there is slight increase in the average age of the early stage entrepreneur in 2016 (38.2 years), while it was less than 35 years in 2009 and 2011. However, the pattern is reversed for established entrepreneurs who are younger in 2016 (37.2 years) compared to 39 years and 38.4 years respectively in 2009 and 2011.

Figure 5.2: Recent evolution of mean age in years for main collectives involved in entrepreneurial activity

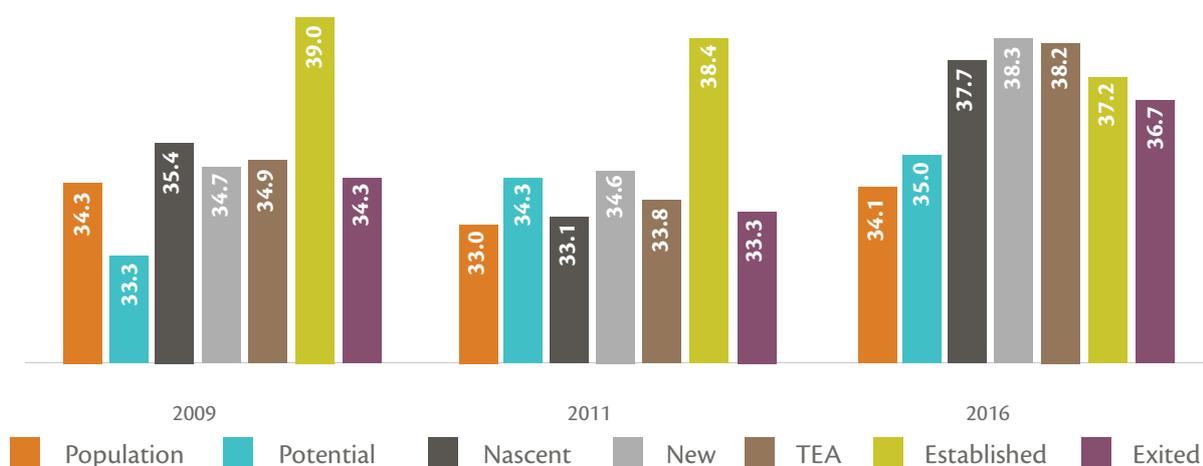


Figure 5.3 below shows the international comparison for the age of adult population involved in early stage entrepreneurial activity. Lebanon shows the highest proportion of the population less than 35 years old involved in TEA (46.3%), while the UAE shows the lowest rate (7.2%). In the UAE, the entrepreneurial activity is significantly developed by people between 45 and 54 years old (11.4%). The UAE rate for this age bracket is the highest after Canada (16.2%) and Lebanon (14.8%).

Figure 5.3: Total early stage entrepreneurial activity by age in 2016



Figure 5.4 below shows the regional distribution of early stage entrepreneurial activity within the UAE in 2016. The Emirate of Abu Dhabi has the highest TEA rate with 36.8% of adult population is involved in an early stage entrepreneurial activity. Dubai and Sharjah follow at some distance, both at 28.1%. The other Emirates have less than 3% of their population involved in the early stage entrepreneurial activity, with the lowest rate for Umm Al Quwain with 0.9%.

Figure 5.4: Regional distribution of early stage entrepreneurial activity within the UAE in 2016

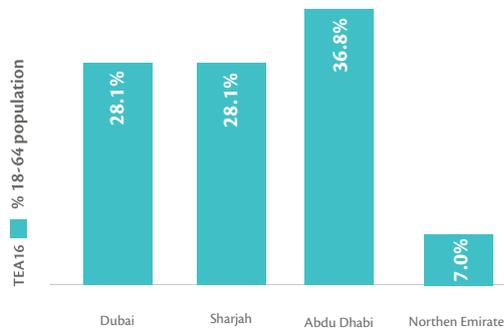


Figure 5.5 below presents the distribution of the total entrepreneurial activity in nascent and new businesses. It suggests that Abu Dhabi, and to a much lesser extent Sharjah, are becoming relevant focus for potential entrepreneurs to start-up, while in Dubai entrepreneurial activity is in a consolidation process with a lesser proportion of nascent entrepreneurs than the other emirates. Among all the emirates, only Sharjah has a similar proportion of nascent and new entrepreneurial activities.

Figure 5.5: Regional distribution of early stage entrepreneurial activity in nascent and new businesses within UAE in 2016



Considering the education level, GEM classifies the population involved in entrepreneurial activities into five categories: 'None' (the respondent did not finish any official educational program), 'Some Secondary' (the respondent finished at least primary studies), 'Secondary Degree' (the respondent finished the school stage), 'Post-Secondary' (the respondent studied a professional or a university degree) and 'Grad Experience' (the respondent got a post-graduate diploma or doctorate).

Figure 5.6 below presents the distribution of education levels and their recent evolution for population involved in potential, nascent, new, total early-stage and established entrepreneurial activities. Overall, the highest proportion of entrepreneurs in 2009 has some secondary level, while since 2011 most potential, nascent, new and established entrepreneurs have post-secondary level. Another remarkable result is the significant drop in entrepreneurs with a graduate degree between 2011 and 2016.

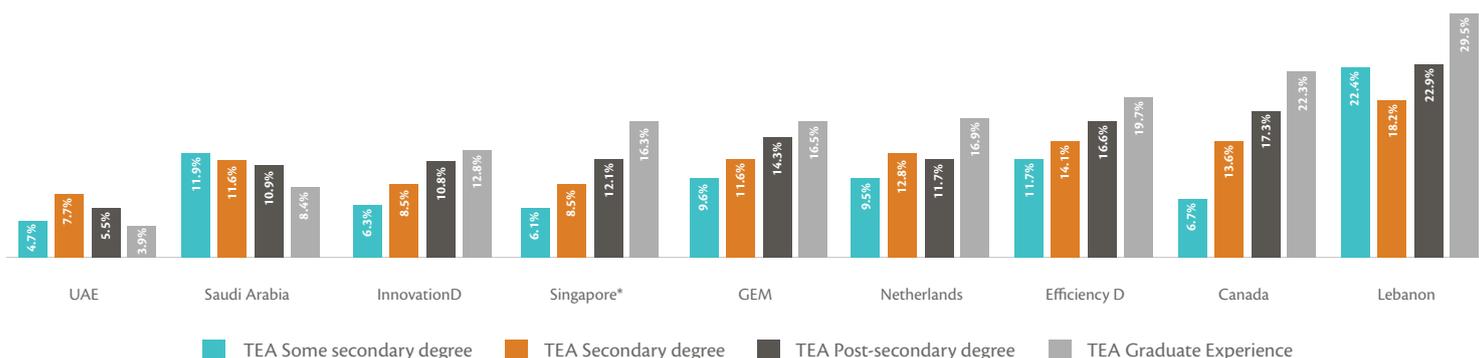
Figure 5.6: Recent evolution of the education level of people involved in entrepreneurial activities



Note: Max Secondary groups 'none', 'some secondary' and 'secondary' – Min University groups 'post secondary' and 'graduate experience'.

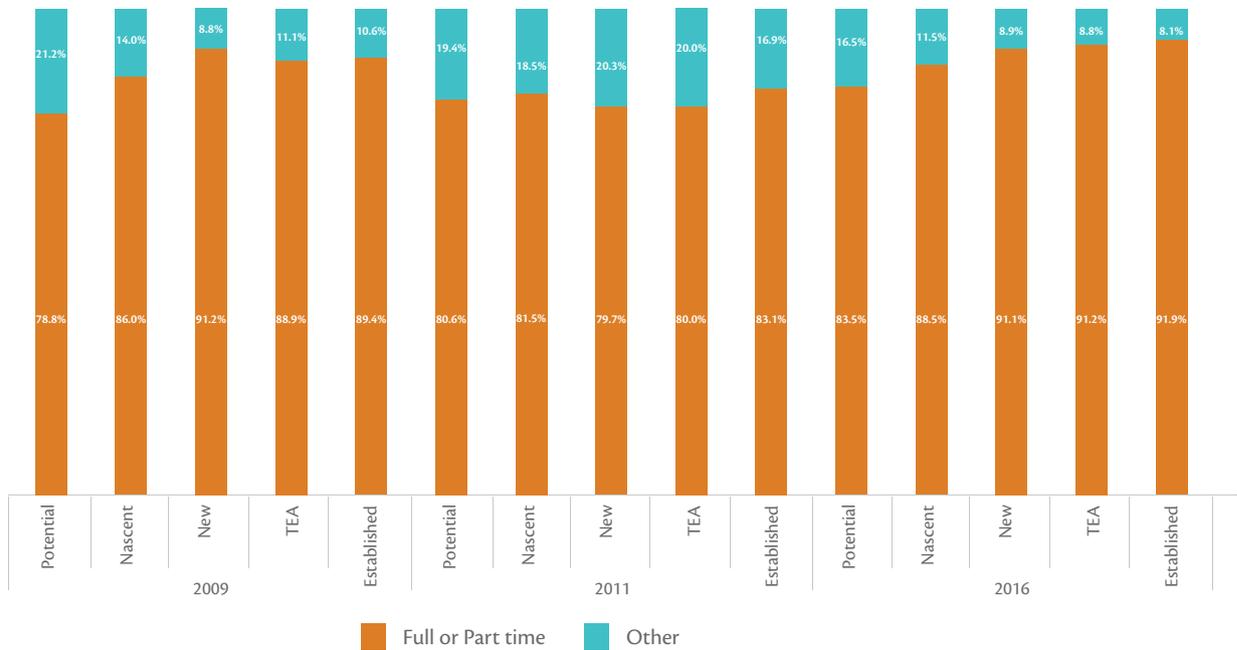
Figure 5.7 below shows the international distribution of education levels for early stage entrepreneurial activity. Lebanon (29.5%) followed by Canada (22.3%) has the highest proportion of early-stage entrepreneurs who are in possession of graduate experience. The UAE has the lowest proportion (3.9%). The education level of entrepreneurs is one of the factors that determine the development of innovative and qualified entrepreneurial activities. Therefore, it is recommended for policy makers to take measures to increase the number of entrepreneurs who hold at least university degree and who have graduate experience.

Figure 5.7: TEA by education level in 2016, ordered by TEA Graduate experience – international comparison



GEM also considers the work status of the population involved in entrepreneurial activities. They are classified into six categories: 'Working full or Part time', 'Part time only', 'Retired or disabled', 'Homemaker', 'Student', 'Not working or other'. Figure 5.8 below suggests that the distribution of work status has not changed much, regardless of the type of entrepreneurs over the years. Most of them work full or part time (more than 80%), and the trend is quite stable over time.

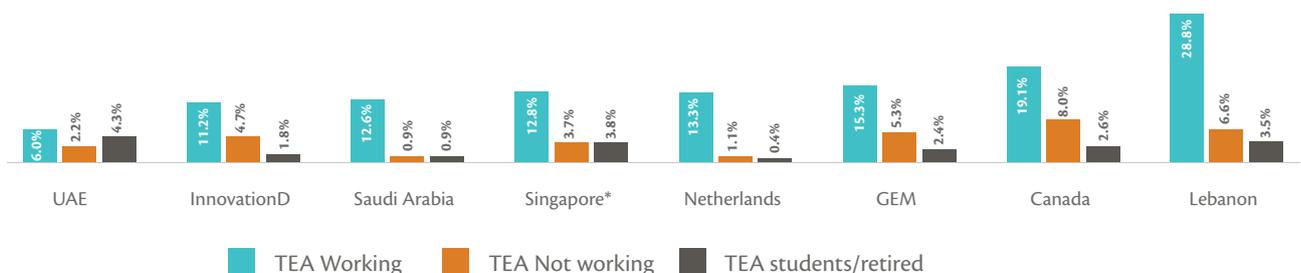
Figure 5.8: Recent evolution of the work status distribution for all entrepreneurial activities stages



Note: 'Other' groups the 5 categories of GEM work status besides full or part time.

Figure 5.9 below presents an international comparison of the percentage of working adult population involved in early-stage entrepreneurial activities (6% in the UAE), the percentage of the non-working adult population involved in early-stage entrepreneurial activities (2% in the UAE), and the percentage of students and retired persons who are involved in TEA (4.3% in the UAE). Except for the Netherlands and Saudi Arabia, the distributions show significant rates of people who are either not working or studying/retired yet are involved in entrepreneurial activities. The rate of students or retired who are involved in early-stage entrepreneurial activities in the UAE is the highest while the rate of working adult population involved in early-stage entrepreneurial activities is the lowest compared to all countries.

Figure 5.9: International TEA by work status in 2016, ordered by TEA working



Additionally, GEM classifies those involved in entrepreneurial activities by their income level. This variable is summarized in three categories: lower third percentile, middle third percentile, and upper third percentile. Figure 5.10 below presents the distribution of income for potential, nascent, new, total early-stage, and established entrepreneurs. All the pictures are very similar and show a significant change between 2009 and 2016. In fact, in 2009 the concentration is in the upper third percentile and highly polarized between a large powerful economic class and a small non-powerful economic class, whereas currently the distributions are tending to be more balanced. The greatest level of entrepreneurial activity in the UAE is still accounted for by the highest income earners. Although there is an increasing involvement of the middle class (36.3% of the TEA in 2016), nearly half of the UAE early stage entrepreneurs still come from privileged social classes.

Figure 5.10: Recent evolution of the income distribution for all entrepreneurial stages in the UAE

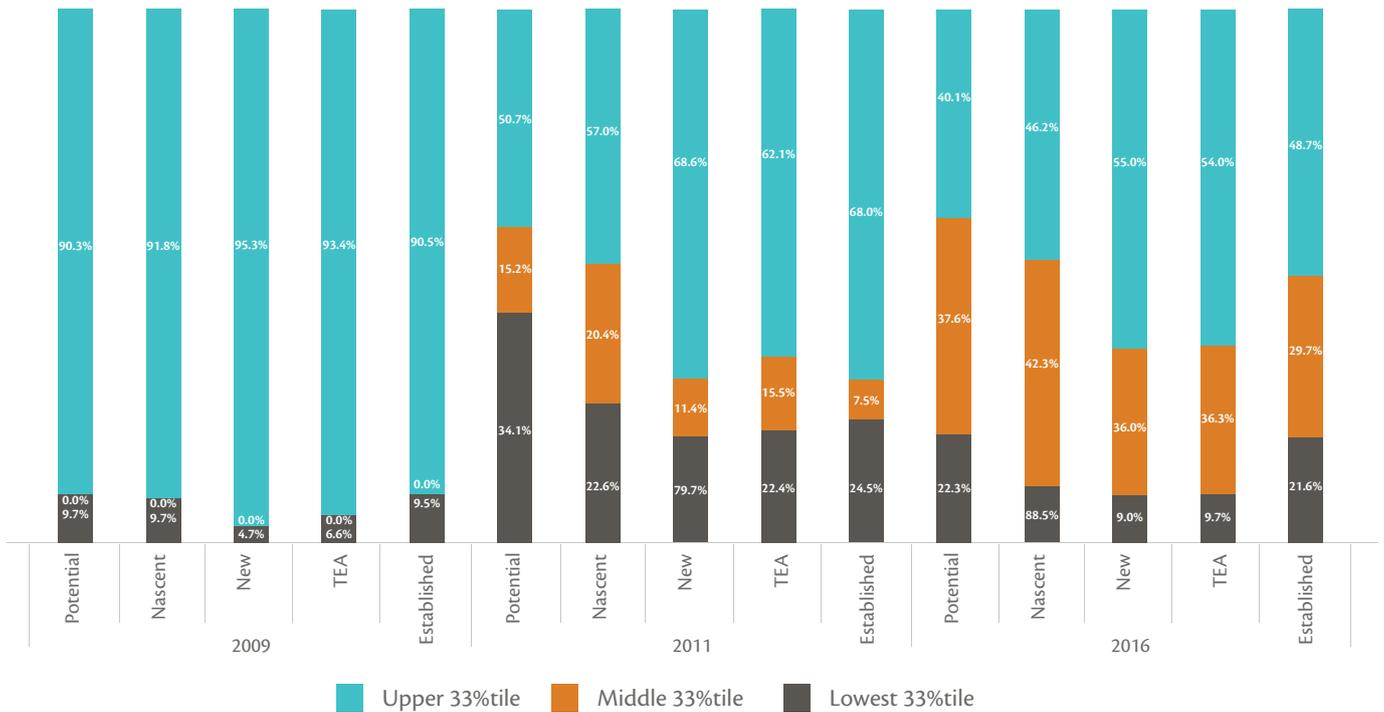


Figure 5.11 below presents the percentage of adult population of three annual income level categories that are involved in early stage entrepreneurial activities among the comparator countries. Except for the Netherlands (where the lowest percentile is the most involved) and Lebanon (where the middle percentile is the most involved), all distributions have a large proportion of early stage entrepreneurs at the highest percentile of income. This might suggest that a significant percentage of total entrepreneurial activity is successful and giving good economic status to their promoters. In the UAE, the proportion of entrepreneurs at the lowest income percentile is the lowest compared to the rest of the countries. Considering the level of income per capital in the country and the paradox of plenty, this result is not surprising.

Figure 5.11: International total early stage entrepreneurial activity by annual income level in 2016, ordered by TEA highest third percentile



Finally, GEM surveys collect the size of the household of persons involved in the entrepreneurial process to complete the profile of potential, nascent, new and early stage entrepreneurs as well as the profile of established owner-managers. Figure 5.12 below shows no significant differences between the entrepreneurship categories over time. We can see that early stage entrepreneurs and established owner-managers live in a household of an average 5 persons. Established entrepreneurs tended to live in bigger families, however this is no longer the case in 2016. It seems that the average household size tends to decrease overall in the UAE, and for the entrepreneurs.

Figure 5.12: Average size of households of adults involved in entrepreneurial activities in the UAE



5.2 TYPICAL PROFILE OF THE UAE ENTREPRENEUR

The UAE early stage (TEA) entrepreneur is a man whose age is around 38 years, that has a university degree, whose annual income is between 100,000 and 150,000 AED, who works full time in his business, and who lives in a household of almost 5 members.

The following pictures present characteristics of early stage entrepreneurs in the UAE regions. We highlight their gender, age, and migration status with a focus on Emiratis. We also present their education, motivation (mainly the % of improvement-driven opportunity entrepreneurs) and the industry in which they are undertaking their activities. For instance, the early stage entrepreneur in Abu Dhabi is a male (64.8%), aged between 25 and 34 (39.5%), who is Emirati (11.9%), holding a university degree (78%), who is improvement-driven opportunity in 31% of the cases, and who is mainly in the retail sector (65.1%).

Figure 5.13: Typical Profile of Abu Dhabi Entrepreneur in 2016

Figure 5.14: Typical Profile of Dubai Entrepreneur in 2016

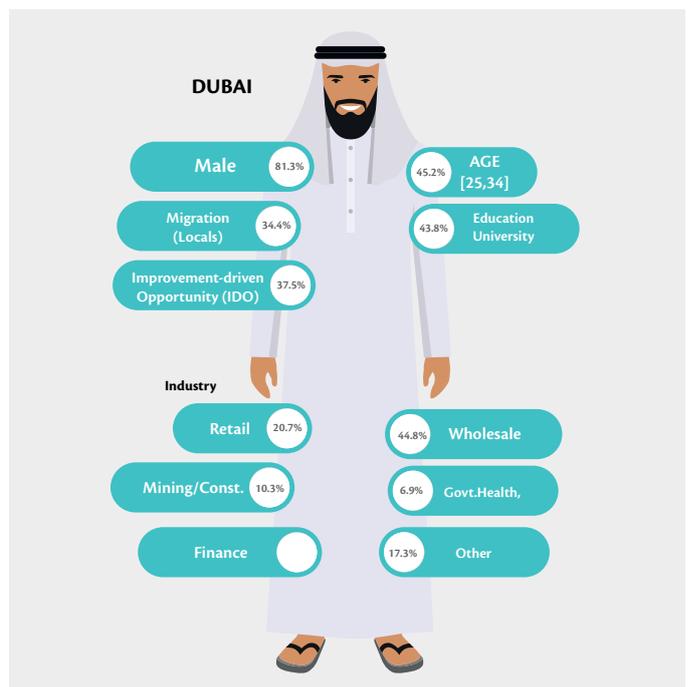
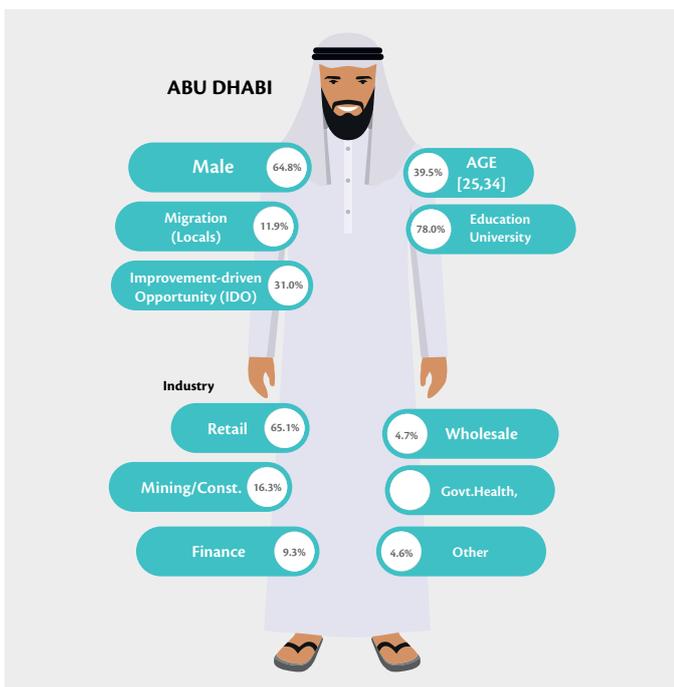


Figure 5.15: Typical Profile of Sharjah Entrepreneur in 2016

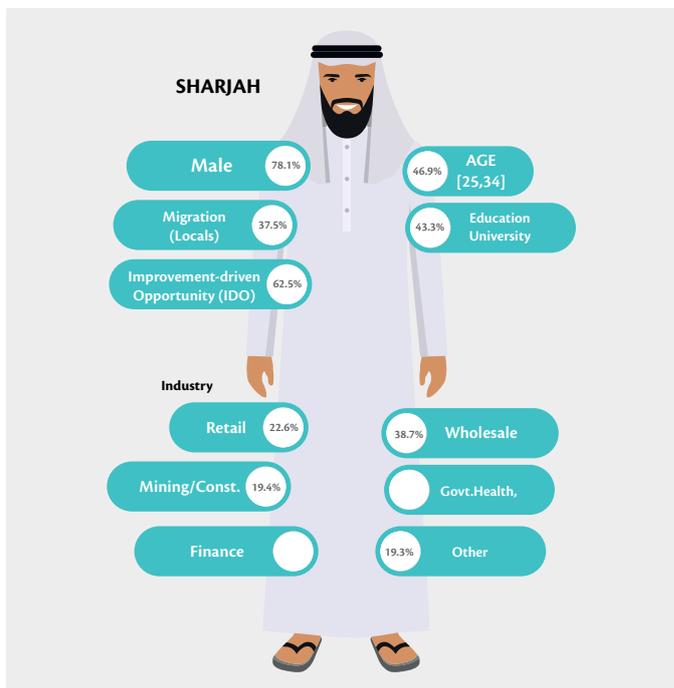
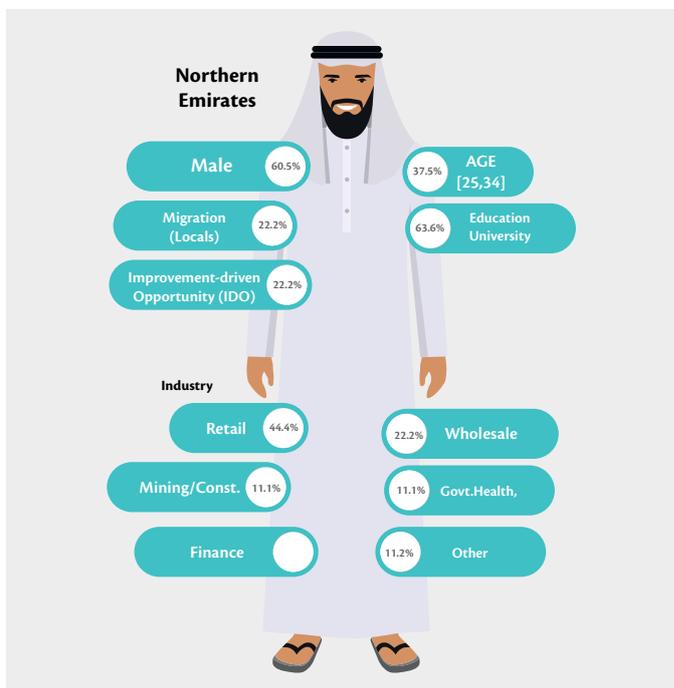


Figure 5.16: Typical Profile of Northern Emirates Entrepreneur in 2016



¹⁴ The case study is co-authored by Prof. Nihel Chabrak and Dr. Chafik Bouhadioui

¹⁵ The Commission on the Measurement of Economic Performance and Social Progress (Stiglitz et al., 2009)

¹⁶ <https://www.uaecabinet.ae/en/details/news/mohammed-bin-rashid-happiness-positivity-are-lifestyle-government-commitment-and-a-spirit-uniting-uae-community>

¹⁷ In this study, we consider entrepreneurs those who are involved in early stage, established entrepreneurial activity or who discontinued a business.

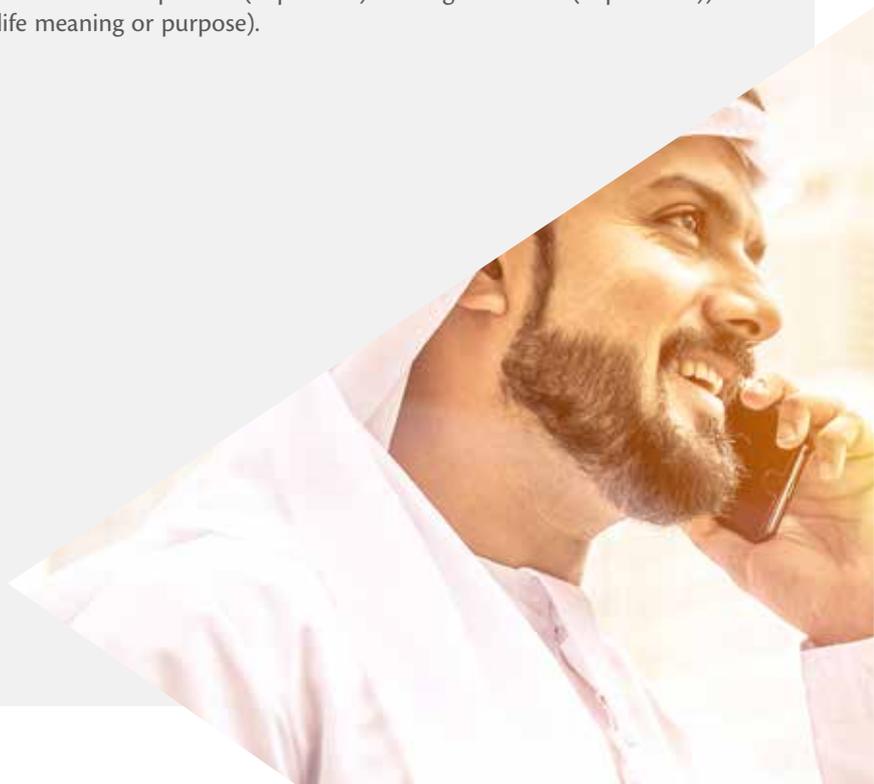
CASE STUDY: ENTREPRENEURSHIP & HAPPINESS IN THE UAE: HOW TO INCREASE WELLBEING FOR A QUALITY OF GROWTH¹⁴

Part of a long term research project using GEM data, the purpose of this case study is to examine the potential relation between entrepreneurship and happiness in the UAE to help policy makers use entrepreneurship as a lever to increase wellbeing of the UAE citizens in order to achieve a new quality of growth.

Since the Kingdom of Bhutan introduced the notion of “gross national happiness”, many measures have been developed to provide additional elements to the traditional economic-oriented measures of development (Angner, 2010; GEM, 2013). Stiglitz, Sen and Fitoussi (2009) suggest exploring the use of indicators of wellbeing to develop better policies: “The time is ripe for our measurement system to shift emphasis from measuring economic production to measuring people’s wellbeing”.¹⁵ The recent UAE government decision to create a “Ministry of Happiness” reflects a strategic shift towards a quality of growth that is centered on the wellbeing of its citizens. According to Mlachila et al. (2014), quality growth is strong, stable and sustainable growth that increases productivity, and leads to socially desirable outcomes, such as improved standards of living and poverty alleviation. According to the World Bank (2000), the “quality of growth is about people and their wellbeing, which involves their ability to shape their lives. Accordingly, development must be inclusive of future generations and the earth they will inherit... This notion of development as well-being means that measures of development must include not just rates of growth, but the dispersion, composition, and sustainability of that growth” (World Bank, 2000; p. 2). According to H.H, Sheikh Mohammed bin Rashid, Vice President, Prime Minister of the UAE, and ruler of Dubai, “happiness and positivity in the UAE are a lifestyle, a government commitment and a spirit uniting the UAE community. The government system is evolving to realize the goals that every human seeks: happiness for him and his family.”¹⁶

“Happiness” is now compared across economies mainly through the World Happiness Report (Helliwell et al., 2013), which is edited under the endorsement of the United Nations. Our perspective is informed by the OECD measures of subjective wellbeing (OECD, 2013); happiness therefore is considered as one among a wider range of concepts covered by subjective wellbeing. If our focus this year is on understanding the nature of happiness as perceived by the UAE citizens and more specifically the entrepreneurs and the evaluation of their level of happiness,¹⁷ our broader objective is to propose a framework for policy to improve wellbeing to facilitate the shift towards a quality of growth.

Considering scholarly research that has revealed the multifaceted nature of wellbeing that includes a continuum from judgments of life (life evaluation) to feelings (daily affect), the OECD concept of subjective wellbeing encompasses three elements: (1) Life evaluation - a reflective assessment on a person’s life or some specific aspect of it; (2) Affect - a person’s feelings or emotional states, typically measured with reference to a particular point in time; and (3) Eudaimonia – a sense of meaning and purpose in life, or good psychological functioning. The OECD Guidelines go on to recommend a core module of questions to be used comprised of two elements: the first is a primary measure of life evaluation, which represents the absolute minimum required to measure subjective well-being. It is relatively similar to the Cantril Ladder in terms of their technical suitability for use as an over-arching measure, particularly if both use the same 11-point (0 to 10) scale). The second element consists of a short series of affect questions (a range of positive and negative experiential questions, including several measures of positive (1 question) and negative affect (2 questions)) and an experimental eudaimonic question (a question about life meaning or purpose).



This is not the first time that the GEM has studied happiness and wellbeing. In 2013, GEM introduced a novel approach to link entrepreneurship indicators with measures of wellbeing. New items included in the GEM assessment involve subjective wellbeing, satisfaction with one's current work and work-life balance. Initial results indicate that the prevalence of subjective wellbeing varies widely across world regions. Sub-Saharan African economies exhibit the lowest rates, whereas the American economies, both Latin and North America, have the highest rates. The "traditional" welfare states like Nordic countries and well-developed economies like Switzerland, Singapore and the Netherlands also exhibit high rates of subjective wellbeing. Taken together the findings suggest that in each economy, and in world regions with close common heritage, framework conditions such as economic, political, institutional and cultural contexts have a singular influence on the population's perception about its wellbeing and consequently shapes the entrepreneurship indicators (GEM Global Report, 2013).

The GEM UAE team added 5 compulsory questions to the Adult Population Survey (APS) conducted in 2016 to investigate about the nature of happiness and its perception in the UAE as well as the level of happiness of the UAE citizens and mainly entrepreneurs. The following evaluative question was added to the survey: "Do you feel yourself happy"? The other 4 questions are related to the perceived nature of happiness in the UAE by linking it to 1) objective life conditions; 2) autonomy; 3) social belonging and 4) purposeful life. GEM has always had as one of its core principles, the objective to explore and assess the role of entrepreneurship in national economic growth. Aligned with the "Schumpeterian" view, GEM considers that entrepreneurs are ambitious and spur innovation, speed up structural changes in the economy, introduce new competition and contribute to productivity, job creation and national competitiveness. Being self-employed, entrepreneurs also contribute to the flexibility of the overall economy. Empirical research suggests that entrepreneurs value the independence in implementing their ideas, the lifestyle flexibility of running their own business and the autonomy in their actions and the power to make decisions and govern themselves. They also value the capacity to see that their ideas and business models begin to generate results and the experience to live their ideas and create new jobs. They experience "procedural utility," that the process of being an entrepreneur provides enjoyment over and above the material success of being an entrepreneur (Ajayi-Obe and Parker, 2005; Benz and Frey, 2004; Blanchflower, 2004; Block and Koellinger, 2009; Bradley & Roberts, 2004; Eisenhauer, 1995; Lange, 2012; Levesque, Pastor, & Douglas, 2002; Moskowitz and Vissing-Jorgensen, 2002; Varela, 2014). Hence, entrepreneurs are expected to relate happiness and wellbeing to dimensions like purposeful life, social belonging and autonomy.

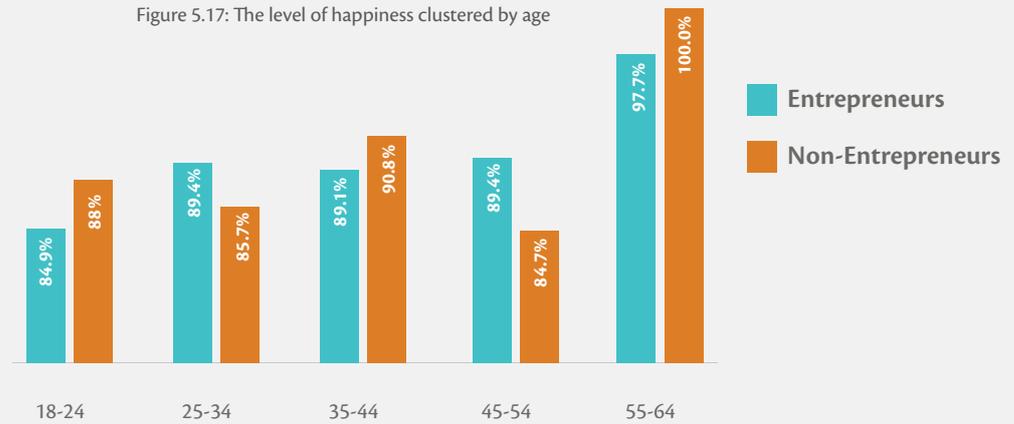
Entrepreneurship has many faces and includes initiatives that are accompanied by less ambitious business activities leading to limited or no growth. Many individuals pursue a business activity because alternative options for work are limited or non-existent; by having the option to engage in self-employment they are able to take care of themselves and their families but at the same time entrepreneurial activity is an occupation that requires greater dedication of time and effort, it requires more emotional energy consumption, it exposes the entrepreneur to a greater number of conflicts and tensions, it obliges the entrepreneur to live in an environment of risk and permanently loaded with more responsibilities, more choices and therefore more stress (Hyytinen & Ruuskanen, 2007; Parasuraman & Simmers, 2001; Varela, 2014). Also, as explained by Hamilton (2000) the average incomes of entrepreneurs at early stage are very low, the returns on investment are not comparable to the financial market (Moskowitz & Vissing-Jørgensen, 2002), and the fear of failure is high (Dunne et al, 1988). That is why, because of the increased financial and work-life balance issues entrepreneurs may face more than non-entrepreneurs, we expect them to be less inclined to link happiness to objective conditions like income and health or work satisfaction.

The findings confirm that individuals in the UAE exhibit high level of happiness. Overall, entrepreneurs (early stage, established and those who discontinued) exhibit higher levels of happiness. People in the UAE consider happiness to be related to all factors including the objective conditions, such as the level of income and other related material conditions. However, the level of happiness decreases significantly for individuals whose annual income is more than 192,000 AED. The same trend is observed for entrepreneurs. This result suggests focusing the analysis on the determinants of wellbeing. We adjusted the module of questions proposed by the OECD and built a new block of questions that we added to APS conducted in 2017 with the aim of identifying the determinants of wellbeing. The findings will help us propose a framework for policy.

ON THE LEVEL OF HAPPINESS OF UAE CITIZENS AND ENTREPRENEURS

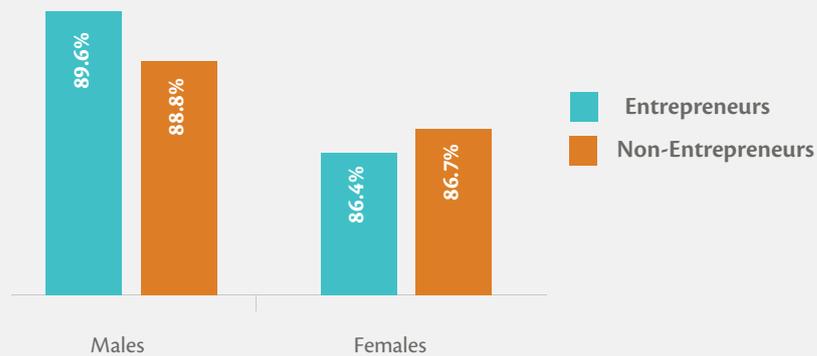
Within the UAE, 88.5% of citizens say they are happy, and 89.13% of entrepreneurs state they are happy while 87.7% of non-entrepreneurs say they are happy. When clustered by age (Figure 5.17 below), individuals between 55 and 64 years old exhibit the highest level of happiness. Among them, non-entrepreneurs seem to be happier; as 100% of non-entrepreneurs in this category state they are happy compared to 97.7% for entrepreneurs. Non-entrepreneurs seem to be happier also for two other categories of age: from 18 to 24 and from 35 to 44. However, for individuals aged between 25 and 34 and between 45 and 54, entrepreneurs exhibit highest level of happiness. For instance, 89.4% of entrepreneurs in the UAE who are 45 to 54 years old state they are happy, while 84.7% of the non-entrepreneurs in this category stated they are happy. Finally, the highest proportion of entrepreneurs is in the category of 25 to 34 years old. They represent 46.25% of entrepreneurs in the UAE. 89.4% of them state they are happy compared to the non-entrepreneurs who are in the same category, 85.7% of them state they are happy.

Figure 5.17: The level of happiness clustered by age



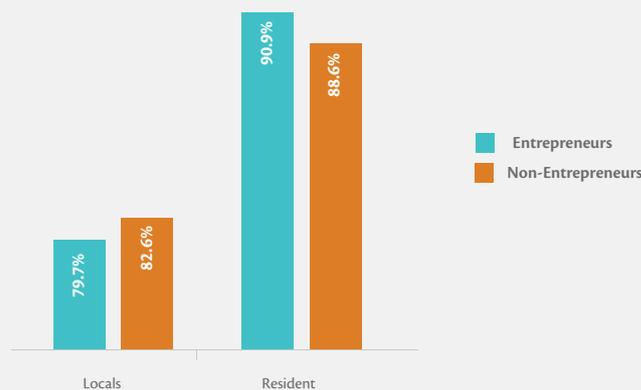
When clustered by gender (Figure 5.18 below), 86.6% of females living in the UAE state they are happy. Female non-entrepreneurs exhibit higher level of happiness (86.7%) than female entrepreneurs (86.4%). For males, 89.6% of males' entrepreneurs state they are happy while 88.8% of males' non-entrepreneurs state they are happy.

Figure 5.18: The level of happiness clustered by gender



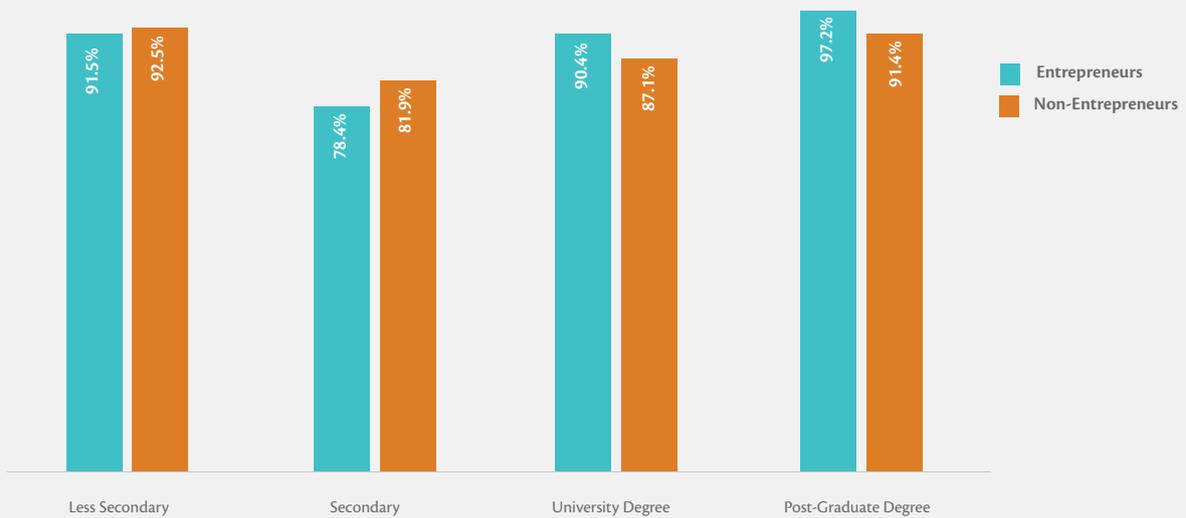
When we consider the migration status (Figure 5.19 below), 80.9% of Emiratis state they are happy and 89.8% of non-Emirati expats state they are happy. 82.6% of Emiratis non-entrepreneurs state they are happy while 79.7% of Emirati entrepreneurs say they are happy. For non-Emirati expats, the situation is the opposite. Entrepreneurs exhibit higher level of happiness with 90.9% of entrepreneurs stating they are happy compared to non-entrepreneurs who 88.6% of them state they are happy.

Figure 5.19: The level of happiness clustered by migration status



When clustered by educational level (Figure 5.20 below), individuals with postgraduate degree are the happiest in the UAE and mainly entrepreneurs. 97.2% of entrepreneurs with postgraduate level state they are happy. Entrepreneurs with secondary level exhibit the least level of happiness. 78.4% of entrepreneurs in this category of education state they are happy.

Figure 5.20: The level of happiness clustered by educational level



When clustered by region (Figure 5.21 below), overall entrepreneurs in Dubai, Sharjah and Abu Dhabi exhibit higher level of happiness compared to non-entrepreneurs, while the trend is opposite in the northern emirates with an exception for the Emirate of Ras Al Khaima where 100% of entrepreneurs and non-entrepreneurs state they are happy. The biggest difference between the entrepreneurs and non-entrepreneurs' level of happiness is observed in the Emirate of Abu Dhabi, where 96.3% of entrepreneurs state they are happy while only 90% of non-entrepreneurs say they are happy.

Figure 5.21: The level of happiness clustered by region



Finally, the most interesting finding is related to the level of happiness of the UAE citizens when clustered by income. The level of happiness increases with income up to a certain point. UAE citizens whose annual income is between 96,000 and 144,000 AED, who represent third of the total population, exhibit the highest level of happiness (90.9%). Only 9.1% of them say they are not happy. The level of happiness starts decreasing for higher income and significantly drops for individuals with an annual income more than 192,000 AED. Almost 20% of individuals in this category, which represents 4.9% of the total population, state they are not happy.

When we consider the difference between entrepreneurs and non-entrepreneurs, Figure 5.22 below suggests that overall entrepreneurs exhibit higher level of happiness than non-entrepreneurs, except for categories of income between 0 and 60,000 AED and 144,000 and 192,000 AED. The entrepreneurs who exhibit the highest level of happiness are those who have an income between 96,000 and 144,000 AED. 93% of them state they are happy. They represent the biggest proportion of entrepreneurs in the UAE (37.27%). While only 88.2% of non-entrepreneurs in the same category, who represent 36.07% of the non-entrepreneurs, say they are happy. The entrepreneurs who exhibit the undermost level of happiness are those who have an income between 192,000 and 240,000 AED. 83.6% of them state they are happy. They represent less than 6.6% of the total entrepreneurs in the UAE. The non-entrepreneurs in this same category exhibit the lowest level of happiness in the UAE. Only 76.6% say they are happy and they represent about 9.3% of total non-entrepreneurs in the UAE. Therefore, it is clear that the level of happiness is sensitive to the income up to a cutoff point that is 144,000 AED for entrepreneurs and 96,000 AED for non-entrepreneurs. Moreover, being an entrepreneur is clearly a lever to increase the level of happiness.

Figure 5.22: The level of happiness clustered by income

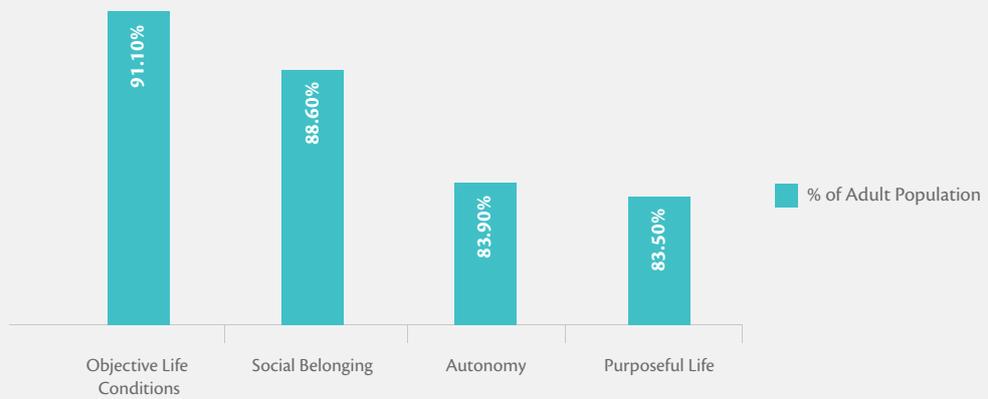


Although these results are exploratory, there is initial evidence in the UAE that involvement in entrepreneurial activity can be linked to higher levels of subjective happiness. The study conducted by GEM in 2013 reached similar results showing that overall entrepreneurs in all regions exhibit relatively higher rates of subjective wellbeing in comparison to individuals who are not involved in the process of starting a business or owning-managing a business, with lower rates for necessity-driven entrepreneurs compared to opportunity-driven entrepreneurs. GEM study also shows that female entrepreneurs in innovation-driven economies exhibit on average a higher degree of subjective wellbeing than males and in innovation-driven economies, early-stage entrepreneurs generally exhibit the highest levels of subjective wellbeing, although they report more problems in work-life balance than those in efficiency-driven economies.

ON THE PERCEIVED NATURE OF HAPPINESS IN THE UAE

On the nature of happiness, Figure 5.23 below suggests that 91.1% of individuals in the UAE think happiness is related to objective life conditions such as income, health or work satisfaction. 47.8% of them are entrepreneurs. 88.6% relate happiness to the feeling of social inclusion or belonging, 46.4% of them are entrepreneurs. Meanwhile 83.9% of individuals in the UAE consider happiness to be associated with feeling being autonomous, 44.6% of them are entrepreneurs and 83.5% of individuals in the UAE think happiness is related to having a meaningful and purposeful life or serving others, 44.3% of them are entrepreneurs. Overall, the UAE citizens think their happiness requires having good objective life conditions, being autonomous, having a purposeful life and having a social belonging. Further analysis will help identify the main drivers of happiness and wellbeing in the UAE. Additional questions will be asked in 2017 for this purpose.

Figure 5.23: Nature of happiness as perceived by adult population in the UAE



To conclude, further data and analysis is required to understand the determinants of wellbeing in the UAE. The study is continued in 2017 to identify measures the government of the UAE need to consider in order to increase the wellbeing of the UAE citizens and to move towards a quality of growth.

CASE STUDY: WOMEN AND ENTREPRENEURSHIP IN THE UAE ¹⁸

INTRODUCTION

There are several factors to consider when examining women's participation in entrepreneurship in the UAE. These include: citizenship, economic and social impact, and ecosystem support. These then also affect each other and inform how opportunities or challenges manifest. This snapshot of women and entrepreneurship in the UAE is based on personal observation and interviews conducted by the second author of the case from 2015-17 in the UAE. It includes education, incubation and accelerator participation, and financing availability and support.

While the UAE government has made a point to showcase how women have contributed to the economy in the past through entrepreneurial activities such as trade and small business, the following observations are focused on entrepreneurs who seek to expand to larger markets and thus need the kinds of ecosystem support that is discussed below. The second part of the case presents an initiative for women entrepreneurs in the UAE the first author was instrumental in establishing and running.

EDUCATION

Since the founding of the UAE in 1971, the government has made education a priority. In 2010, women's attendance in private Universities in the UAE was at 51%, and at 72% in public universities. With the UAE government emphasis on innovation and entrepreneurship, these students are in a key position to participate in UAE initiatives to foster new businesses. Although university programs are increasingly attractive to all women, including expatriate populations, they are not open to older women who want to either join or return to the workforce.

INCUBATORS / ACCELERATORS

The number of women in incubators based at Universities is higher than open market offerings because of several factors. There are many more women than men in higher education in the UAE. For example, at the UAEU Science and Innovation Park, the incubation program Prototypes to Market "P2M" involves 63% women and 27% men entrepreneurs in its second cohort. In 2016, UAEU counted 15,567 students (registered or graduates), 12,525 were women (80.45%). Among the 3023 new enrollments in 2016, 2,448 were women (81%). In the STEM fields, UAEU counts 77% registered or graduate women in 2016. This leads to a larger pool of potential women entrepreneur who are both eligible and interested (field of study). The incubators are in a nascent stage, so while these participation rates are high, the economic and social impact of these initiatives cannot yet be measured.

Although, women who do come from other countries to participate in incubators such as Flat6Labs or IN5 are highly motivated, and have family support for childcare if applicable, and for the expense of travel, their number in the open market incubators remains lower.

FINANCING / INVESTMENT

Both male and female entrepreneurs articulate financing as a predominant challenge in starting a business in the UAE. However, the gendered aspect of what entrepreneurs are expected to be affects how investments are given out. For example, at pitch events, entrepreneurs are expected to present themselves and their idea in a specific style. If they do not fit into this male gendered expectation of what confidence should look like, it impacts the likelihood of the women receiving investment. One example of an initiative to increase women investment in women led business is The Women Angel Investment Network (WAIN).

Started in Dubai in 2014 by Heather Henyon and Lucy Chow, WAIN targets 3 areas to bring more women into the entrepreneur ecosystem as both angel investors and entrepreneurs. WAIN educates female angel investors on investment. Since inception, 28 women angels have been trained. It also offers a group investment fund to support female entrepreneurs looking for seed funding. Since 2014, seven investments have been closed for a total of \$425,500 in 6 out of 126 companies screened with a \$60,786 average ticket. The investment offered to female entrepreneurs is far more than funding. WAIN takes a hands-on approach to skilling, mentoring, participating on boards and working with the portfolio businesses to help grow the investment.

¹⁸ This case study is co-authored by Maria Pearson, and Willow F Williamson. A special thank goes to Prof. Nihel Chabrak for her input on UAEU and SIP.

The mission of WAIN is to build the confidence of first time female angel investors; support women led business by democratizing access to capital and creating an active network of businesswomen supporting each other in MENA. WAIN's investment portfolio is testament to the social nature of women owned businesses and the hands-on support offered by WAIN. These include: Little Thinking Minds, a digital reading platform in Arabic for children; Dayone response, water-purifying backpack to revolutionize access to clean drinking water; and, Dharma, a data management platform for emergency relief work, to collate data and give remote teams up to date access to resources and information. The latest investment, Bulkwhizz, is a UAE based online grocery shopping and delivery solution. Dayone was a global Top 10 finalist in the Chivas The Venture competition in 2017.

CONCLUSION

The participation of women in the entrepreneurship ecosystem in the UAE includes women starting new ventures and the people who provide the services and support to them. Both men and women are involved in all aspects of this entrepreneurial process, from education and mentoring programs, to making business plans and finding and educating investors. The following case study highlights the role of demographics, motivations, and how success is achieved through networks.

WOMEN-ABLE: WHEN SUCCESS IS DRIVEN BY BUSINESS SKILLS, NETWORKS AND COMMUNITY SUPPORT

In the UAE, women's economic participation is actively encouraged. Business women councils across the country are open to Emirati and expatriate women with an ethos of 'women in the UAE can do business'. Many expatriate women active in business councils are often "trailing spouses"; following their husbands to the region at the expense of their own careers. Typically, unable to participate in university entrepreneur/incubator programs, Women-able targets trailing spouse and older women to become active in the economy. Throughout 2014 and 2015, Grow.ME created entrepreneur initiatives with MasterCard and the Dubai Business Women Council. 170 female residents participated with a goal to launch a small business. The opportunity to win funding was determined by engagement and performance, but real economic impact never truly materialized; some continued with their business without the exponential growth required to access finance, some left the region and others just stopped at the end of the program.

OUR 2015 REVIEW HIGHLIGHTED 3 KEY POINTS

1. It is one thing to start a business but more is required to stay in business.
2. Primary focus of the program was on the business and access to funding rather than women's business skills
3. A lively support network was a byproduct rather than a nurtured output.

We launched Women-able in 2016 to support women entrepreneurs build a business and create economic impact. Women-able is an agnostic enterprise development program with a twist – create the skills to boot strap growth to attract funding.

In Phase 1, 58 women joined Women-able, a multinational group from 35 countries, including 5 Emirati, they all call the UAE home. Participant ages ranged from 30 to 70 years.

Phase 2 saw 21 businesses selected for incubation across the spectrum of ideation, go to market, and established businesses with a desire for growth. What the group had in common was every entity solved a problem within the local community; had identified a large target market to generate sales and had the potential to create employment. The economic impact achieved by 21 businesses in 8 months is stunning.

1. Hired 49 paid employees
2. 17 businesses achieved breakeven or made a profit
3. 6 businesses started exporting goods and services, both in the MENA region and globally to US, UK, Africa, Europe and India
4. Average outsourced services spend, per business - 5500 AED per month.
5. Estimated annual contribution to the local economy from out sourced services alone, 1.38 million AED

All of the businesses were funded from personal savings and bootstrapping via increased sales revenue.

¹⁹ <http://www.uaeu.ac.ae/en/vc/paid/pdf/universitystatistics16.pdf>

SUCCESS THROUGH COMBINING BUSINESS SKILLS, NETWORKS AND COMMUNITY SUPPORT

We achieved results because we fostered a sustainable community that freely shared resources and skills, and built each other's businesses through contacts and referrals. Participants actively supported each other with ideas, suggestions and positive recognition.

The community was founded on 3 pillars:

1. Relationships build businesses
2. Trade the skills you bring to the community
3. The power of the group is greater than an individual

Six weeks into the program the community was self-organizing and self-sustaining. There were no formal information presentations in group-learning sessions. Instead, we organized panel discussions with expert guests on specific topics. Our guest panelists were only allowed to answer questions. It was exciting to observe how it actually worked, in that the women framed their questions to gain insight to make decisions. They simply asked for what they needed to know. After expert panel sessions, conversations between community members lasted for days, confirming, clarifying and exploring how to progress. The practice of reporting daily and weekly successes and failures became a ritual and point of pride, for moral support and confidence building buoyed by peer group encouragement.

Sales and revenue increases were driven by recognizing the value of time and contribution, resisting the urge to discount or offer for free. Successful negotiation with beta test customers to pay for services was highly impactful for the group to understand the worth of the product or service as opposed to how they valued themselves. Seeing the results of a peer using a new customer channel provided the impetus for others to experiment outside of the norm. Those with strong negotiation skills bargained with suppliers on the group's behalf to get the best price available for support services, such as content writers, or website designers.

At the midpoint of the project, based on the strength of her business value proposition, one of the Emirati participants successfully won a place in a prestigious government funded program. Whilst she has funding to hire resources, she is still trying to figure out a way to market and is yet to acquire a first customer.

The review of the program found every team doubled the size of available business resources using a skills trade and co-founder or sweat equity strategies.

1. 21 businesses reported 4% – 230% increase in sales
2. 4 pre-revenue tech companies acquired 3 or more paying beta test customers
3. 21 businesses increased 3 or more channels to customers
4. 8 businesses initiated online sales channels to reach a global market
5. Based on commercial potential, 3 businesses won investment attracting a combined seed funding of 420,000 AED (\$110k USD).
6. 4 businesses won places in incubators for 2017.

Women-able created a sustainable network to support women grow their businesses and develop the commercial skills to stay in business for the longer term. Entrepreneurship is about creating value. For Women-able that value includes creating jobs and economic opportunities in the community. But, it's about more than growing one's business alone. The resourcefulness of the group, a nurturing environment built on trust and collaboration, is the driver for success and continues beyond the end of the project.

POLICY IMPLICATIONS TO FOSTER WOMEN ENTREPRENEURSHIP IN THE UAE

1. There needs to be more support for women who are coming back to the workforce or joining the workforce at an older age. Consideration to include equal support for all female residents to participate in entrepreneurship increases the opportunity to create more active businesses.
2. Many women want to give back and help other women to launch businesses. However, they do not have time to go to all the panels and conferences to mentor in person. One strategy is to create resources such as interviews and conference panel content to post online for women to access anytime.
3. To encourage more investment by women and for women, there need to be opportunities to practice investment strategies. Some of the workshops at New York University Abu Dhabi have addressed this issue through mentoring and training.





CHAPTER 6: INFORMAL INVESTMENT ACTIVITY

6.1 INTRODUCTION

GEM is a valuable source of data on informal investment, defined as funds provision to entrepreneurs by family, relatives, friends, work colleagues, neighbours, strangers or any other non-formal financing channels. The literature on financing for entrepreneurs identifies this source as the most critical for entrepreneurs at the start-up stage. It is, therefore, relevant to monitor the informal investment activity by estimating the approximate average amount invested, the proportion and characteristics of the adult population acting as informal investors, and the relationship between the informal investors and the beneficiaries.

6.2 VOLUME OF INFORMAL INVESTMENT AND ADULT POPULATION ACTING AS INFORMAL INVESTORS

As presented in Table 6.1 below, most individuals who affirmed they acted as informal investors provided the approximate amount of their investment. In 2009, 94.6 % of the informal investors provided this information, while in 2011 and 2016 the percentage has reached 98%. This allows the estimation of the main indicators related to the informal investment's contribution to financing entrepreneurial activity. The most robust indicator is the median, as the average may be affected by extreme values (low or high). In terms of medians, the individual contribution of informal investors has dramatically decreased from 100,000 AED in 2009 to 30,000 AED in 2016. The mode, i.e. the most frequent amount invested, remained the same in 2009 and 2011, but suffered a high drop from 100,000 AED in 2011 to 20,000 AED in 2016.

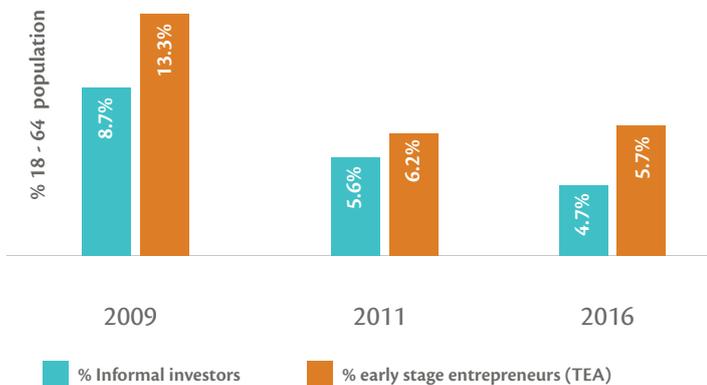
Table 6.1: Main indicators on informal funds invested in the UAE and their recent evolution

Indicators	2009	2011	2016
% of informal investors who provide the amount	94.6%	97.74%	97.7%
Invested amount average in AED	266,179.49*	64,791.63*	54,679.71
Invested amount standard deviation in AED	619,859.8	266,376.4	60230,35
Invested amount average in US\$	72,476.38	15,688.9	14,886.62
Invested amount standard deviation in US\$	168,777.9	103,700.7	16,397.79
Invested amount median in AED	100,000.0	50,000.0	30,000.0
Invested amount median in US\$	27,228.0	13,612.50	8,167.54
Invested amount mode in AED	100,000.0	100,000.0	20,000.0
Invested amount mode in US\$	27,228.0	27,225.0	5,445.0

*: 5% Trimmed mean.

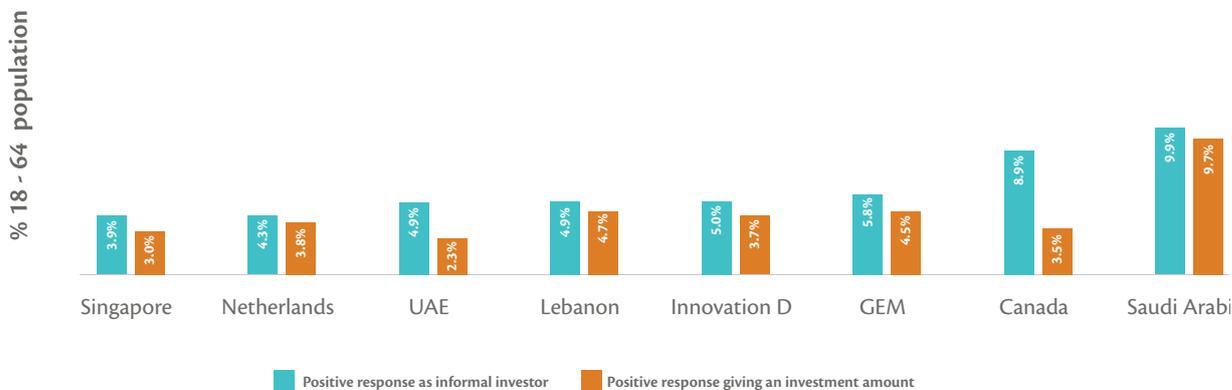
GEM estimates the participation of the United Arab Emirates' adult population acting as informal investor year by year, through the question: "Have you, in the past three years, personally provided funds for a new business started by someone else, excluding any purchases of stocks or mutual funds?". Figure 6.1 below shows the temporal evolution of the informal investors rate in the UAE along with the evolution of the rate of total early stage entrepreneurial activity. It is interesting to present the informal investors and entrepreneurial activity rates together because, usually, the size of informal investment is aligned to the size of the activity which gives support. The percentage of people who declared having acted as informal investor was around 8.7% in 2009, and decreased to 4.4% in 2016. During the same period, there is also a decrease in the early-stage entrepreneurial activity. However, the gap between the informal investment and the entrepreneurial activity has narrowed during 2009-2016. Given that most of developed countries usually show percentages around 2.4%, the UAE figures are both high in international comparison, and more importantly are consistent with the internal demand for finance.

Figure 6.1: Estimated percentage of adult population acting as informal investors, total early stage entrepreneurial activity (TEA) and their recent evolution in the UAE



However, when we look at the absolute percentages, Figure 6.2 shows that the UAE ranks quite low compared to Lebanon, Innovation-Driven economies, the GEM average, Canada and Saudi Arabia, although it does outperform Singapore and Netherlands.

Figure 6.2: Estimated percentage of population acting as informal investor in 2016 – International Position



6.3 INFORMAL INVESTORS CHARACTERISTICS AND RELATIONSHIP WITH BENEFICIARIES

Table 6.2 below, which is also captured in the UAE informal investor profile (see below), suggests that most informal investors are male (68.6%) but that female participation has been increasing moderately across the period to reach 31.4% in 2016. Informal investors seem also to be slightly older as the average has moved from around 35 years to 37.5 years in 2016. In 2009, most of them belonged to the highest percentile of annual income while the middle income did not participate in informal investments. In the following periods, the distribution has been somewhat more balanced, although still 59.5 % of informal investors in 2016 belong to the highest earners percentile. The share of middle-income investors increased from 16.1% in 2011 to 22.5% in 2016, and the share of the lowest-income investors decreased from 19.9% % to 18%.

Table 6.2: Main indicators on informal investors' characteristics and their recent evolution

Indicators	2009	2011	2016
Gender			
Male (%)	83.0%	74.8%	68.6%
Female (%)	17.0%	25.2%	31.4%
Age			
Mean age and St. Dev.	34.8 (8.8) years	35.8 (10.4) years	37.4 (7.6) years
Annual income			
Lowest %33 ptile	13.0%	19.9%	18.0%
Middle %33 ptile	0.0%	16.1%	22.5%
Highest %33 ptile	87.0%	64.0%	59.5%
Educational level**			
None	1.5%	1.2%	1.3%
Some secondary	4.9%	0.4%	18.5%
Secondary	16.8%	25.9%	16.6%
Post-secondary	75.2%	49.7%	56.0%
Graduate experience	0.0%	22.8%	7.6%
Work status (reduced)			
Work FT or PT	92.0%	84.9%	91.6%
Not working	4.2%	9.7%	3.3%
Retired/Students	3.8%	5.4%	5.1%
Knows recent entrepreneurs	78.5%	47.9%	88.3%
Sees good opportunities	51.0%	51.8%	74.8%
Involved in TEA	31.1%	25.4%	37.1%
Involved in Established Business	13.2%	9.5%	4.3%

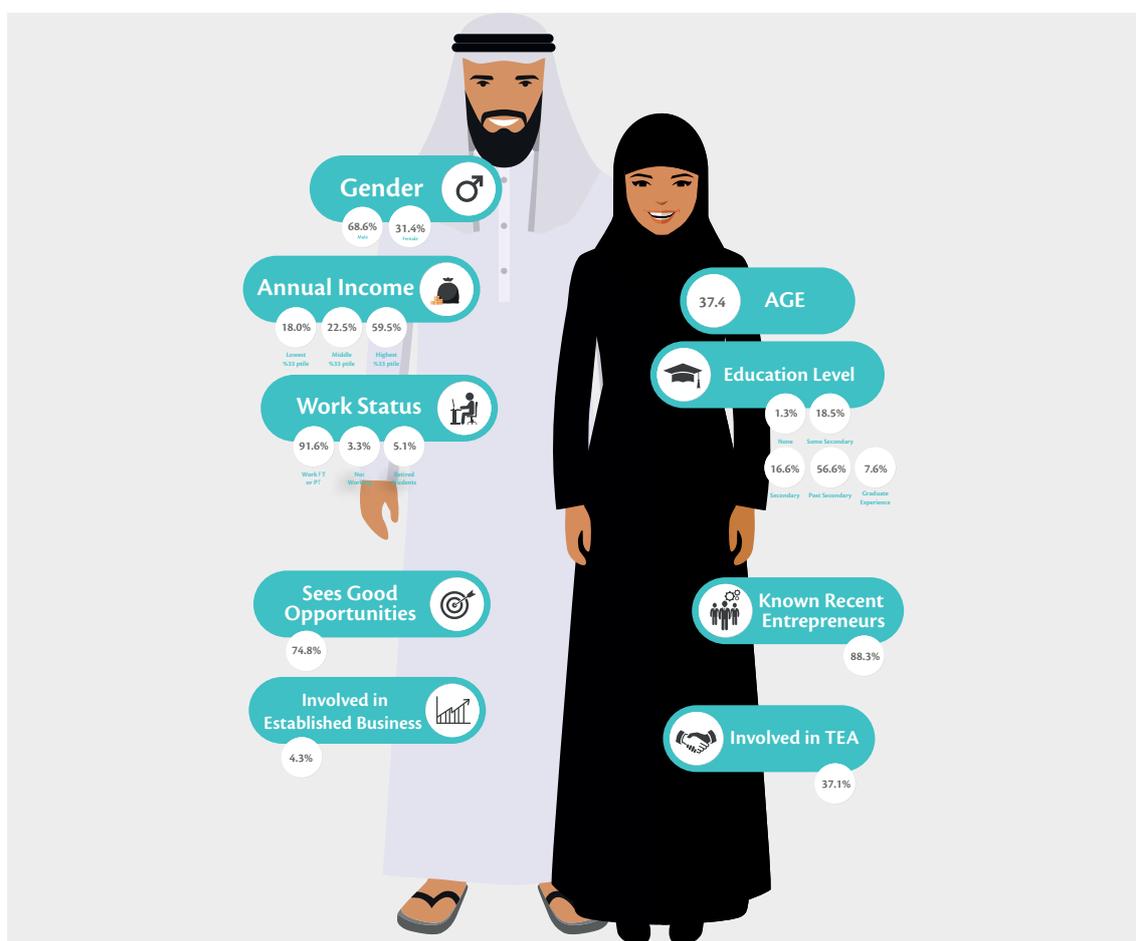
*Note: the basis to calculate these indicators has been the total sample of informal investors of each year

**Note: No graduate experience. 1.6% was not coded.

The share of informal investors increases with the educational level, with the exception for those with graduate experience. In 2009, none of the informal investors had a graduate degree; 75% of the informal investors had a post-secondary degree, distantly followed by secondary studies at 17%. In 2011, most informal investors have post-secondary degree (49.7%), although 22.8% of informal investors with a graduate degree. By 2016, the educational level of informal investors seems more widespread with the highest proportions corresponding to post-secondary degrees with 56%, followed by secondary and some secondary degrees with respectively 16.6% and 18.5%. Only 7.6% of informal investors in 2016 have a graduate degree.

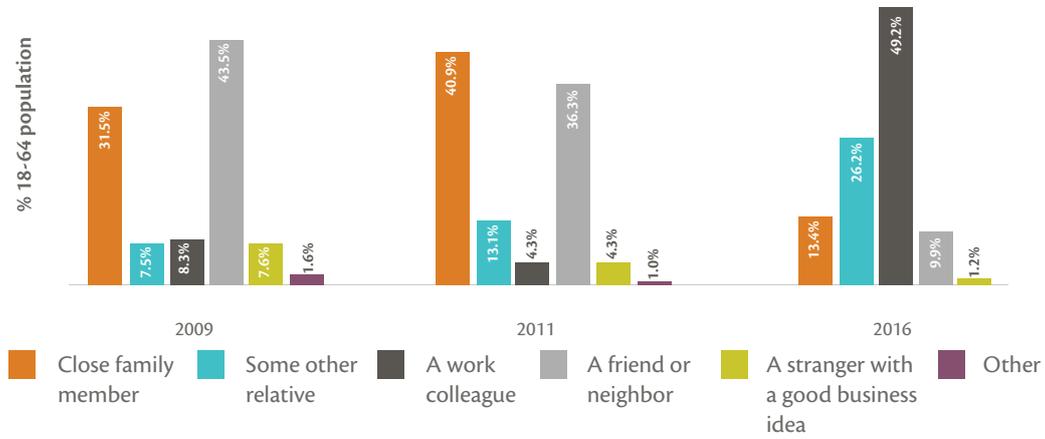
Most informal investors work full or part time. There was a 5% increase in the non-working investors in 2011 but this decreased again in 2016. It is also worth noting that 5% of informal investors in 2016 are either students and/or retired compared to 3.8% in 2011. In 2016, among informal investors, 88.3% know entrepreneurs that recently started-up businesses while in 2011 this share was only 47.9% although it was 78.5% in 2009. About a third of these investors have been involved in an entrepreneurial activity themselves (37.1% in TEA and 4.3% in established businesses). The proportion of established owner managers has on the other hand steadily decreased during 2009-2016, from 13.2% in 2009 to 4.3% in 2016. Around half of informal investors saw good opportunities to start-up in the zone where they live in 2009 and 2011, whereas in 2016 this percentage has increased up to 74.8%.

Profile of the UAE informal investor in 2016

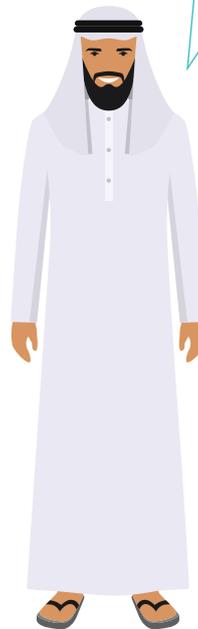


GEM also explores the nature of the relationship between informal investors and their beneficiaries as shown in Figure 6.3 below. For the years 2009 and 2011, about 75% of beneficiaries were a close family member and/or a friend or a neighbour of informal investors. The prevalence between these two changed over time to the advantage of close family members and other relatives in 2011. However, the relationship between informal investors and their beneficiaries in the UAE has completely changed in 2016, where 49.2% of beneficiaries are now work colleagues of informal investors (where in 2009 and 2011 the rate was respectively 8.3% and 4.3%). Finally, the share of beneficiaries who are strangers with a business idea decreased steadily during the period from 7.6% in 2009 to 1.2% in 2016. This finding reflects that new private financing channels such a crowdfunding have not been embraced in the UAE to date.

Figure 6.3: Temporal evolution of the distribution of relationships categories between informal investors and early stage entrepreneurs



Recommendation: measures and incentives for individuals to act as informal investors are crucial to make seed capital more available to increase the level of entrepreneurial activity in the UAE



Focus: Further investigate why new private financing channels such as crowd funding are not embraced





CHAPTER 7: PERCEIVED QUALITY OF THE ENTREPRENEURIAL ECOSYSTEM

7.1 OVERVIEW OF THE ENTREPRENEURIAL ECOSYSTEM CONDITIONS

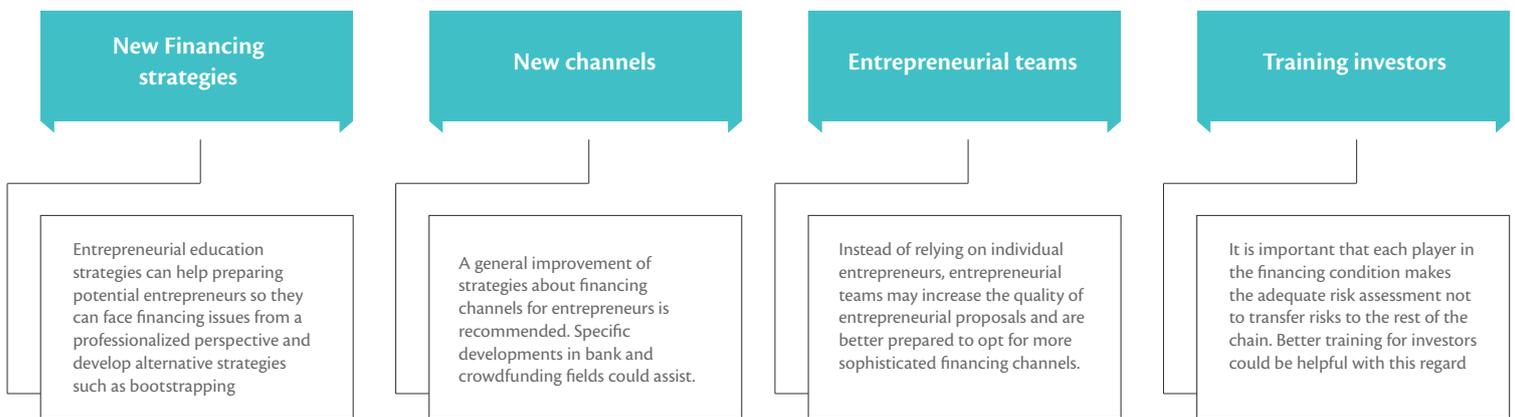
An entrepreneurial ecosystem represents the combination of conditions that shape the context in which entrepreneurial activities take place. GEM assesses the following entrepreneurship conditions: financing, government policies, taxes and bureaucracy, government programs, school-level entrepreneurship education and training, post-school entrepreneurship education and training, R&D transfer, access to commercial and professional infrastructure, internal market dynamics, internal market burdens, access to physical and services infrastructure, and social and cultural norms.

The National Experts Survey (NES) provides data on these conditions. A representative sample of experts from the UAE (see Table 2 in introduction to GEM) assessed a wide set of blocks of items for each entrepreneurship condition using Likert scales of 1 (completely false) to 9 (completely true) to evaluate each proposed statement. Average scores and standard deviations of these evaluations are presented in Tables 7.1 to 7.10 below. Standard deviations provide a measure of experts' degree of agreement when making the assessment. The lower the standard deviation, the higher is the agreement among experts about the statement's status.

Table 7.1: UAE experts' assessment on financing for entrepreneurs

Statements: In UAE...	Average scores	Standard deviations	Interpretation
There is sufficient equity funding available for new and growing firms	4.79	2.07	Somewhat false
There is sufficient debt funding available for new and growing firms	4.67	2.59	Somewhat false
There are sufficient government subsidies available for new and growing firms	5.75	2.42	Neither true nor false
There is sufficient funding available from informal investors (family, friends and colleagues) who are private individuals (other than founders) for new and growing firms	5.53	2.06	Neither true nor false
There is sufficient funding available from professional Business Angels for new and growing firms	4.42	2.46	Somewhat false
There is sufficient funding available from venture capitalists for new and growing firms	4.61	2.12	Somewhat false
There is sufficient funding available through initial public offerings (IPOs) for new and growing firms	4.21	2.55	Somewhat false
There is sufficient funding available through private lenders' funding (crowdfunding) available for new and growing firms	3.88	1.96	Moderately false
Conclusion: Financing channels for entrepreneurs do not show good status in the UAE with the weak exception of informal investment and government subsidies. Government subsidies appear as the most accessible closely followed by informal investments, although respondents do not feel strongly that these are sufficiently available mainly when considering non-Emirati expats entrepreneurs.			

RECOMMENDATIONS FOR FINANCING CONDITION



CASE STUDY: FINANCING IN THE UNITED ARAB EMIRATES²⁰

According to the Arabnet report (2017) on the state of digital investments in MENA, between 2013-2016 the number of tech investors in MENA has grown exponentially. In 2016 alone, 30 funding institutions were established, 40% with headquarters in the UAE. Overall, 33% of tech investors in MENA operate from the UAE (compared to the 31% from 2013 to 2015).

49% of the investors in MENA region are early stage investors, consisting of accelerators (23%), seed funds (14%) and angel networks (12%). Yet over the past 4 years, early stage investors have decreased, dropping from 55% to 49% of the total investor pool. Venture capital funds represent the single largest group of investors, and account for 31% of the community. Although it is not a new trend to the MENA investment scene, corporate investors became active (visible) in 2012. By 2016, corporate investors represent 18% of the surveyed investors. The bulk of new corporate investors operate from the UAE (44%) and Lebanon (18.5%). UAE's corporate investors are industry leaders such as DU, Souq, Alabbar Enterprises, and DHx (Dubai Holding). Corporate investors are far less active and more opportunistic than institutional investors with a mere 4% of the deals closed (27 deals) over the study period.



Opportunity: The MENA ecosystem is attracting more investors and investment as the number and quality of 'investment ready' MENA ventures expands exponentially.



Opportunity: MENA angels are evolving from a handful of pioneer groups to attracting global angels who can actively support ventures to enter new markets and prepare B rounds

While the number of investors continues to increase, the number of deals remains similar to 2014,²¹ hovering between 200-220 deals/year. In 2016, the UAE outranked all other MENA countries in transactions; with 41% of the deals (78 deals). The 70% jump in value of total dollars invested (\$918 million for the MENA region, including \$799 million for the UAE in 2016) is largely explained by two mega-rounds, raised by Careem (\$350 million raised) and Souq.com (\$275 million raised) in 2016. Although early stage deals are the biggest contributors to the number of deals conducted, they naturally contribute the least to the value of investments by ticket size. 2016 was a record year for growth stage deals, which captured 84% of all dollars invested mainly in Careem and Souq; which operate from UAE HQ.

According to a CB Insights report on MENA investment trends, 40% of top MENA investors measured by number of deals globally are located in the UAE. 5 out of 8 of the most active MENA investors in MENA-based companies are located in the UAE, including TURN8, Wamda Capital, FLAT6LABS Abu Dhabi and BECO Capital. The same report shows that most of MENA investors' deals are in MENA region (160 from 2012 to 2017). As MENA is an emerging region it attracts less investment when compared to the US and the rest of the world (only \$2B compared to \$7B in the US and \$3B worldwide from 2012 to 2017). The UAE and Lebanon tie for the most active MENA investors ranked by participation in deals to private US companies since 2012. The UAE and Lebanon are each home to three of the most active MENA investors in US companies. In 2016, the total investment in the UAE tech start-ups skyrocketed to over \$1.7B, as MENA saw its first unicorns with a \$1B funding round to Noon and a \$350M series D round to Careem Networks. More impressive is the overall MENA ecosystem equity funding to private tech start-ups in the UAE, which increased by 588% in 2016 as compared to 2012, after removing the unicorn deal funding.

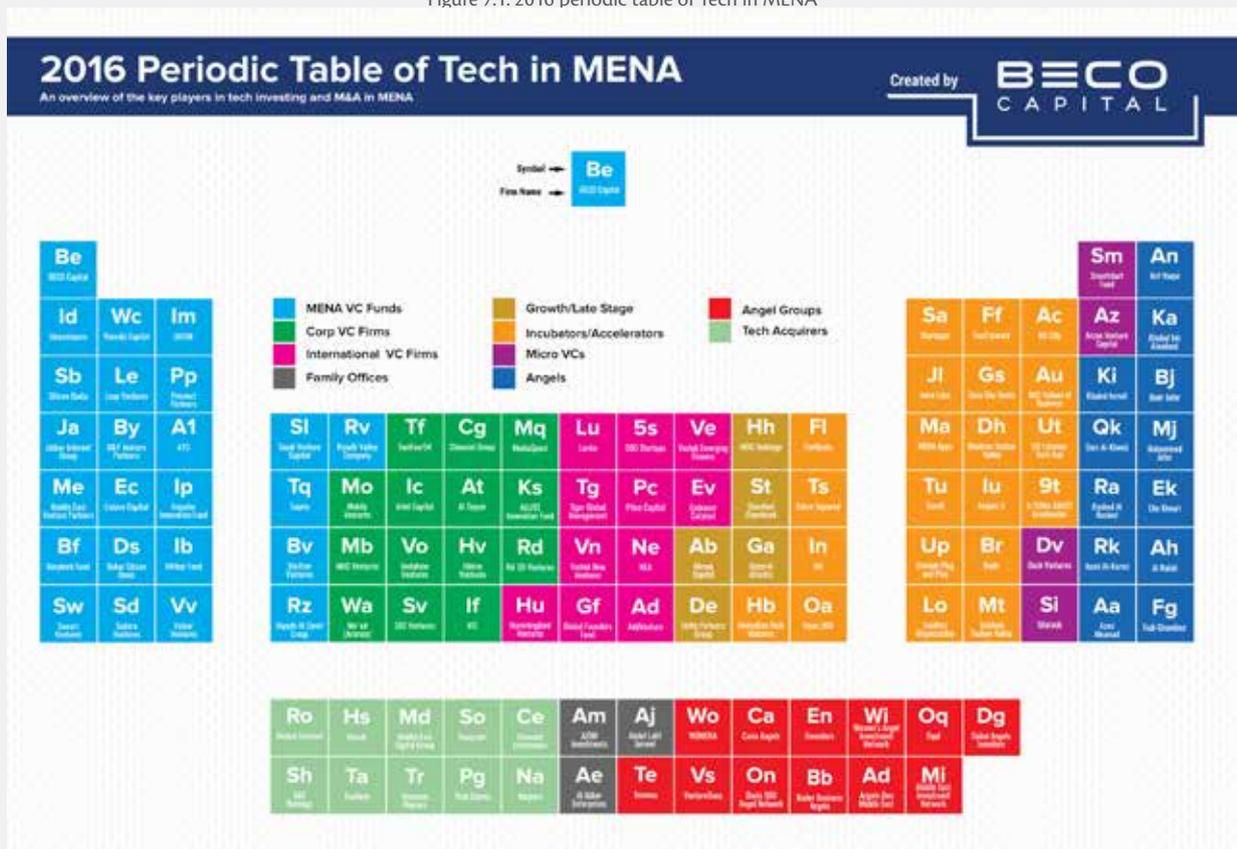
²⁰ The case study is co-authored by Prof. Nihel Chabarak, Scott Gillespie and Sophia Korayem

²¹ <https://www.cbinsights.com/research-MENA-investment-webinar>

The two previous reports highlight the constrained funds for regional start-ups and ventures in MENA. In its Middle East 2016 Wealth Report, according to Research and Markets estimates, the number of high net worth individuals (HNWI) that live in the Middle East is estimated to be 480,000 with a combined wealth of \$2.5 trillion. Around \$165 billion are tied up in venture capital firms, family offices, and foundations, but most capital is most likely allocated to non-regional venture capital funds and foundations. According to BECO Capital, of 116 VCs operating in 2016 in the region, only two dozen are MENA-based (see figure 7.1 below).²² In comparison, the National Venture Capital Association estimates that there are about 800 venture capital firms in the U.S. ArabNet states that VC investments make up 0.3% of the U.S. GDP, while this number in the U.A.E. is only 0.03% and in Saudi Arabia just 0.02%. Besides investments, VC firms have spurred the creation of the leading startup accelerators and incubators in the region such as TURN8 (Dubai), Flat6Labs (Abu Dhabi), In5 (Dubai), ImpactHub (Dubai), and AstroLabs (Dubai), which is the only Google-partnered Tech Hub in the MENA region, serving as a launchpad for the highest potential tech startups. Yet, still most SMEs currently find their finance outside the UAE.

Overall, only an estimated few hundred million dollars in venture and growth equity capital are active in the region. This suggests local investors are investing more globally than specifically in MENA, a trend which is compounded by local investors taking their skills, access and networks with their money. Even the first unicorn startups from the region, Souq.com and Careem, have raised the vast majority of their funding first from international investors (Tiger Global Manager and Naspers for Souq.com and Japanese E-Commerce Giant Rakuten for Careem)²³. The question is why entrepreneurs in the MENA region, including those in the UAE, still suffer funding constraints when investable ventures are available within MENA?

Figure 7.1: 2016 periodic table of Tech in MENA²²

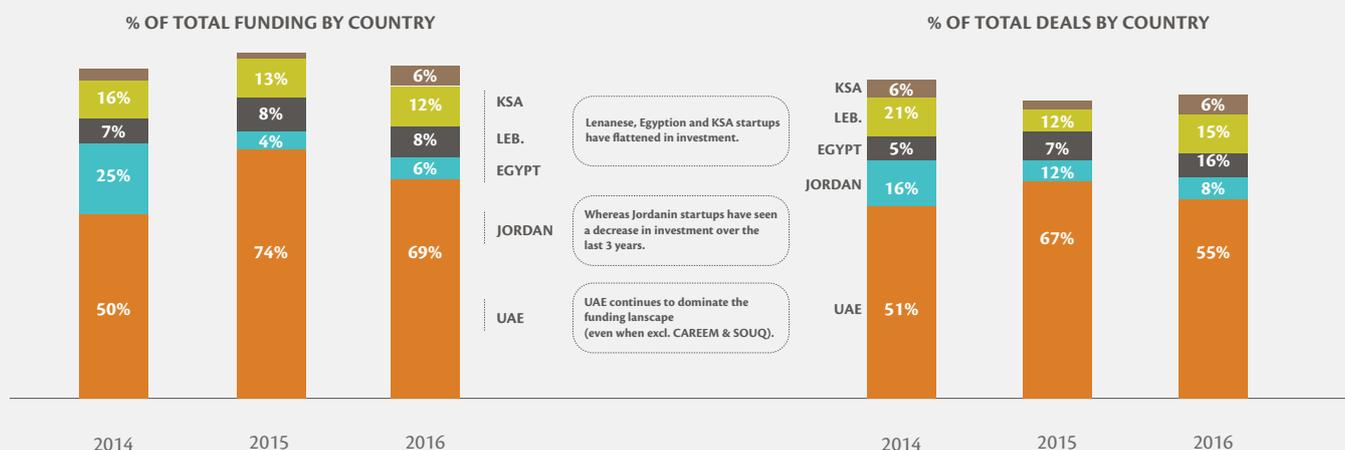


The UAE is the regional leader in terms of VC investments (see figure 7.2 below) with ventures raising more than \$2.3B over 5 years²⁴. The data suggests that 55% of start-ups funding in 2016 came from businesses in the UAE. Thus, UAE start-ups are leading MENA region in investment ready ventures²⁵. It is not surprising that Dubai is also a leading venue for regional and international VC forums. However, there is a room for improvement, as was highlighted by all reports and confirmed by our GEM data.

²² Figure 7.1 <http://becocapital.com/2016-periodic-table-of-tech-in-mena/>
²³ <https://dtec.ae/news/challenges-persist-raising-venture-funds-middle-east/>
²⁴ <https://www.cbinsights.com/blog/uae-tech-startups-map/>
²⁵ <https://www.magnitt.com/state-mena-funding-2016>

Figure 7.2: The UAE is a start-up hub in the MENA region

UAE CONTINUES TO COMENT ITSELF AS A STARTUP HUB



Observations:

1. A handful of experienced local angels (networks or individuals) and VCs exist in the UAE consistently with the stage of the countries maturity/evolution. The activity level of investing in early stage ventures and A round has increased dramatically over the past 5-10 years (prior to 2008 it was negligible outside of family offices).
2. There is an excessive focus by incubators and accelerators on fundraising rather than on development of prototypes, market validation, and sales growth (traction) as a proxy for success. This shared practice is supported by a mythical shared opinion suggesting that this is the best way as it is the "Valley Way". Yet, it neglects that fact that both UAE and MENA ecosystems are at a different development stage from where the valley is today.
3. Angel groups are becoming useful training grounds for angels (investors), ventures (founders), and support groups (like incubators and accelerators). Although this process will take time, it helps diffuse a new mind-set and practice that capital raising is a campaign and not a task and having a good idea does not necessarily mean a venture is investment ready.
4. Many startups are subsidiaries of offshore companies, often to protect founders and investors as the ecosystem is still emerging. The UAE still has a number of barriers that make it difficult for investors to be protected when investing in early stage ventures including lack of bankruptcy laws, weak shareholder and banking laws (relative to ventures), limited exits and a thin secondary market for shares.
5. Although Jordan was one of the first places to have an ecosystem concentration of investors with Oasis 500, the UAE now exceeds Jordan's activity level and size of transactions.
6. Groups like Beehive (P2P lending) and Eureeca (Equity Crowdfunding) are providing additional elements to the ecosystem to flesh out the continuum of capital sources and increase the number of players learning and investing in the market.

Figure 7.2 [https://www.magnitt.com/sites/default/files/files/STATE_OF_MENA_FUNDING\(1\).pdf](https://www.magnitt.com/sites/default/files/files/STATE_OF_MENA_FUNDING(1).pdf)

Recommendations:

1. Angels and VCs need to expand their skilling, coaching and training of founders so that the pipeline of investment ready ventures grows more quickly.
2. As most investors generally look for traction, the region (government and industry) should help early stage ventures by being active consumers of prototypes, pilot products and new offerings thus demonstrating local products/services are market validated.
3. Regional stakeholders should look at complementary mechanisms to invest alongside angels and VCs to create a multiplier effect, and to let the investors lead in the selection and support of the ventures.
4. Regional stakeholders should consider mechanisms to encourage buying local innovations and reducing imports plus increase exports thus manifesting the 'knowledge industry' ethos of the national plans across MENA. VAT incentives for 'innovated and made in MENA' could be used.
5. The UAE government should undertake steps in persuading local HNWI, big investment groups and family offices to invest more locally by suggesting promising technology start-ups rather than in property and real estate abroad. Several government incentives could be used to orient the behaviour of local HNWI. The record \$1B investment from Mohamed Alabbar (CEO of Emaar Properties) along with Public Investment Fund (PIF) of Saudi Arabia in new e-commerce platform Noon is commendable. This is a good example for others to follow.
6. The vibrant ecosystem of local startup accelerators and incubators should be further fostered. New business models should be pursued and new KPIs are to be set to shift focus to increasing innovation content, competitiveness, job creation, start-ups survival, start-ups sales, etc.
7. A more sophisticated legal VC framework should be developed. The recent UAE government decision about the establishment of a legal system for venture capital funds will further strengthen country regional leadership in the sector, promote the competitiveness of SME-sized businesses as well as the national business especially in innovation and technology-based areas.²⁶ It is certain that in upcoming years, more and more VC and angel investors will find the UAE as a best location to invest in MENA region.²⁷ However, this should be considered as first and not final step.
8. Funding in the UAE should benefit both Emirati and non-Emirati expats ventures as they all contribute to make the UAE ecosystem vibrant and attractive. New schemes could be applied to promote multicultural and diversified entrepreneurial teams with different needs and appetites.
9. An active secondary market for shares of early stage companies (like OTC) would assist in creating market based valuation rather than private market transaction.

²⁶ <http://gulfnews.com/business/sectors/investment/the-uae-announces-legal-system-for-venture-capital-funds-1.1958042>

²⁷ <http://m.arabianbusiness.com/a-bird-s-eye-view-of-uae-start-up-ecosystem-637769.html>

Table 7.4: UAE experts' assessment on entrepreneurial education and training

Statements: In UAE	Average scores	Standard deviations	Interpretation
Teaching in primary and secondary education encourages creativity, self-sufficiency, and personal initiative	5.06	2.25	Neither true nor false
Teaching in primary and secondary education provides adequate instruction in market economic principles	4.18	2.28	Somewhat false
Teaching in primary and secondary education provides adequate attention to entrepreneurship and new firm creation	4.12	2.52	Somewhat false
Colleges and universities provide good and adequate preparation for starting up and growing new firms	4.47	2.46	Somewhat false
The level of business and management education provide good and adequate preparation for starting up and growing new firms	5.03	2.38	Neither true nor false
The vocational, professional, and continuing education systems provide good and adequate preparation for starting up and growing new firms	4.67	2.33	Somewhat false
<p>Conclusion: Entrepreneurial education and training shows a deficient status in the UAE. Thus, on the one hand, entrepreneurial values, market economic principles and attention to entrepreneurship and new firm creation are scarcely provided by schools. This does not help building a substract to prepare new generations to adopt an entrepreneurial spirit or consider entrepreneurship as a career in the future. This way, few people will result in vocational entrepreneurs and necessity entrepreneurs will not have specific training to face properly this necessity contributing with non-or few relevant activities to economy and social development. On the other hand, post school entrepreneurial education and training is not adequate but some better than school education. Knowledge about starting up and growing new firms is not enough imparted at vocational education centres, colleges and universities and the same can be said about management education.</p>			

RECOMMENDATIONS FOR ENTREPRENEURIAL EDUCATION AND TRAINING

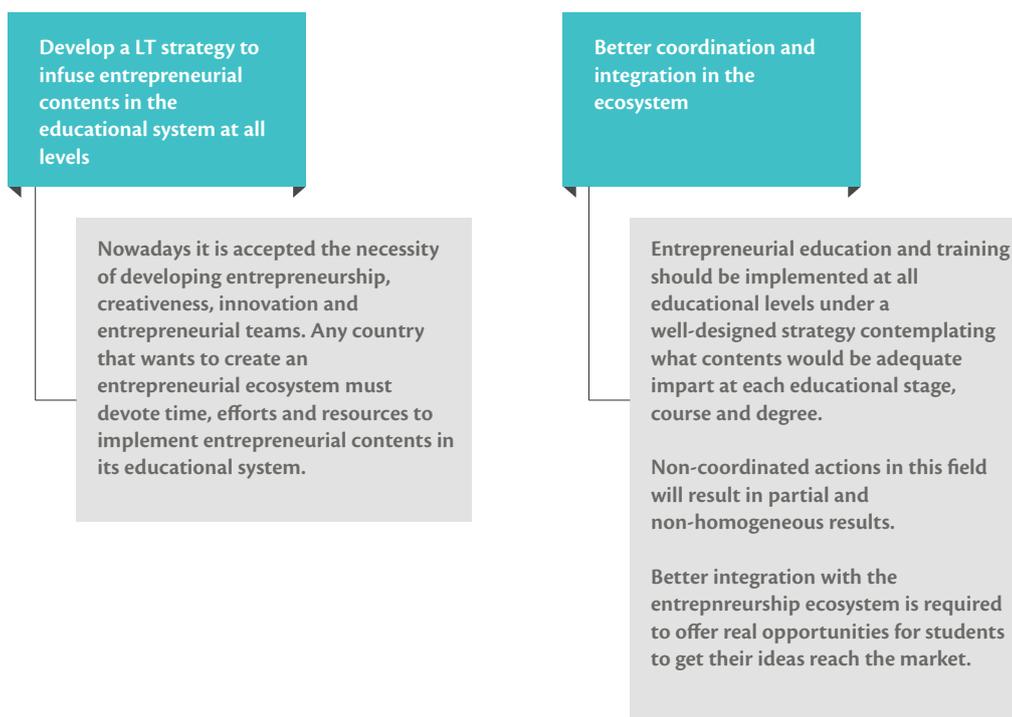


Table 7.5: UAE experts' assessment on research and development transfer around entrepreneurs

Statements: In UAE	Average scores	Standard deviations	Interpretation
New technology, science, and other knowledge are efficiently transferred from universities and public research centres to new and growing firms	4.06	2.62	Somewhat false
New and growing firms have just as much access to new research and technology as large, established firms	4.11	2.62	Somewhat false
New and growing firms can afford the latest technology	4.22	2.68	Somewhat false
There are adequate government subsidies for new and growing firms to acquire new technology	3.86	2.61	Moderately false
There is good support available for engineers and scientists to have their ideas commercialized through new and growing firms	4.22	2.47	Somewhat false

Conclusion: R&D transfer shows a deficient status in the UAE. Experts consider that there are not adequate public subsidies for new and growing firms to acquire new technology; that these firms are worst positioned compared to established firms to access new research and technology. Also, experts consider that in the UAE there is not at least one world-class technology based venture: scientists and engineers have few supports to launch their ideas and so does the transfer of science and new technology from universities and research centres to new and growing firms.

RECOMMENDATIONS FOR R&D TRANSFER

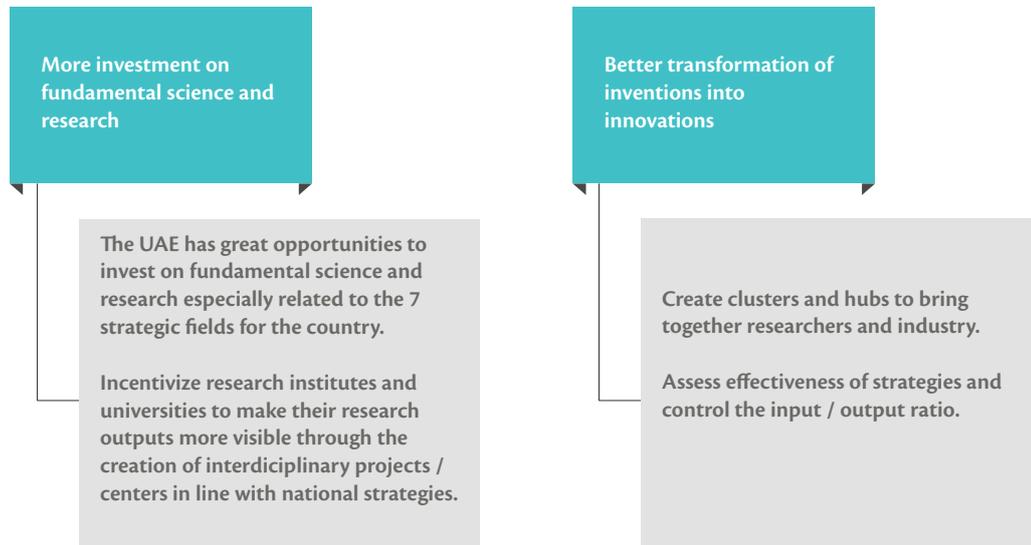


Table 7.6: UAE experts' assessment on commercial and professional infrastructure for entrepreneurs

Statements: In UAE	Average scores	Standard deviations	Interpretation
There are enough subcontractors, suppliers, and consultants to support new and growing firms	6.32	2.24	Somewhat true
New and growing firms can afford the cost of using subcontractors, suppliers, and consultants	4.57	2.33	Somewhat false
It is easy for new and growing firms to get good subcontractors, suppliers, and consultants	5.37	2.56	Neither true nor false
It is easy for new and growing firms to get good, professional legal and accounting services	6.00	2.34	Somewhat true
It is easy for new and growing firms to get good banking services (checking accounts, foreign exchange transactions, letters of credit, and the like)	5.49	2.72	Neither true nor false

Conclusion: Commercial and professional infrastructure for entrepreneurs shows a moderately sufficient status in the UAE. The worst point is affording the cost of subcontractors, suppliers and consultants, followed by some difficulty to find them in the market. The ecosystem has also deficient offer of good professionals for legal issues, accounting and commercial services in general.

RECOMMENDATIONS FOR COMMERCIAL AND PROFESSIONAL INFRASTRUCTURE

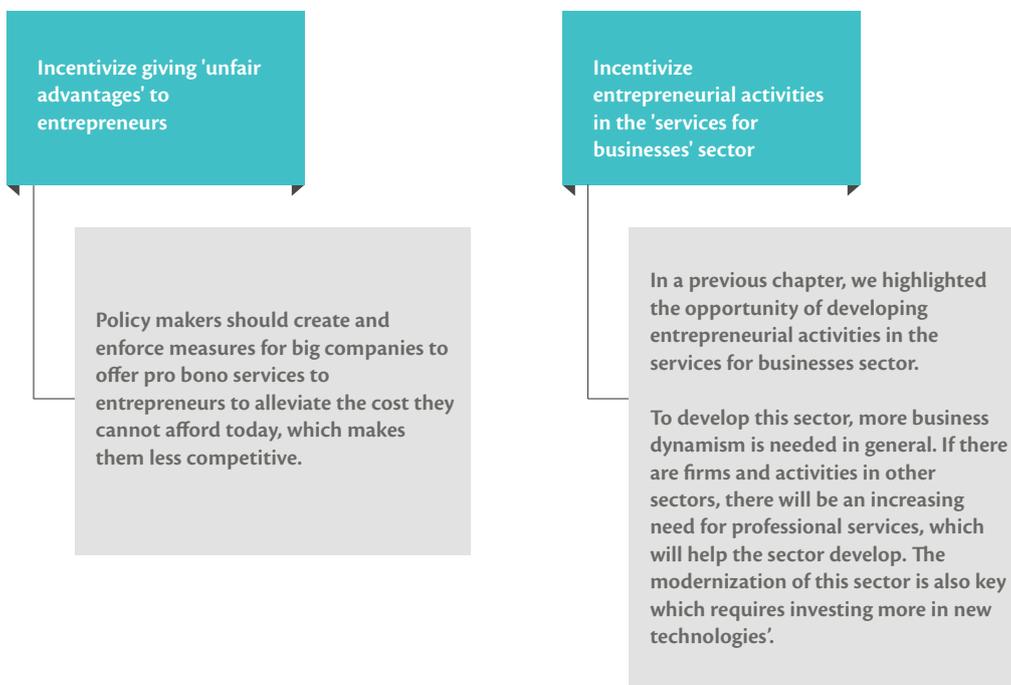


Table 7.7: UAE experts' assessment on internal market status

Statements: In UAE	Average scores	Standard deviations	Interpretation
The markets for consumer goods and services change dramatically from year to year	5.57	1.69	Neither true nor false
The markets for business-to-business goods and services change dramatically from year to year	5.64	1.87	Neither true nor false
New and growing firms can easily enter new markets	5.09	2.31	Neither true nor false
The new and growing firms can afford the cost of market entry	4.54	2.34	Somewhat false
New and growing firms can enter markets without being unfairly blocked by established firms	4.82	2.26	Somewhat false
The anti-trust legislation is effective and well enforced	4.63	2.22	Somewhat false

Conclusion: The internal market is quite stable at this moment about goods and services offered both for consumers and for businesses. New firms have some difficulties to enter the market and cannot afford easily the related cost. There is some blocking by the side of established firms and the anti-trust legislation is perceived as weak and not well enforced.

RECOMMENDATIONS FOR INTERNAL MARKET

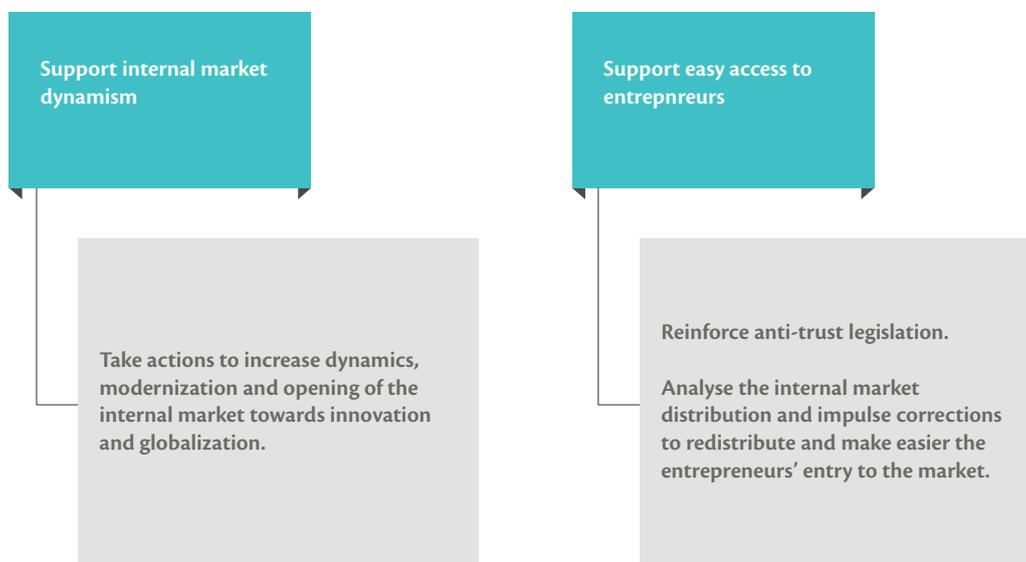


Table 7.8: UAE experts' assessment on physical infrastructure and services status

Statements: In UAE	Average scores	Standard deviations	Interpretation
The physical infrastructure (roads, utilities, communications, waste disposal) provides good support for new and growing firms	8.03	1.46	True
It is not too expensive for a new or growing firm to get good access to communications (phone, Internet, etc.)	6.50	2.48	Somewhat true
A new or growing firm can get good access to communications (telephone, internet, etc.) in about a week	7.86	1.42	Moderately true
New and growing firms can afford the cost of basic utilities (gas, water, electricity, sewer)	6.72	2.22	Somewhat true
New or growing firms can get good access to utilities (gas, water, electricity, sewer) in about a month	7.46	2.02	Moderately true

Conclusion: The physical infrastructure and services is well developed in the UAE and it is quite easy to get access to basic utilities and communications for entrepreneurs. The weakest point of this block is the cost of these utilities and communications, although they are not seen as too onerous.

RECOMMENDATIONS FOR PHYSICAL INFRASTRUCTURE AND SERVICES

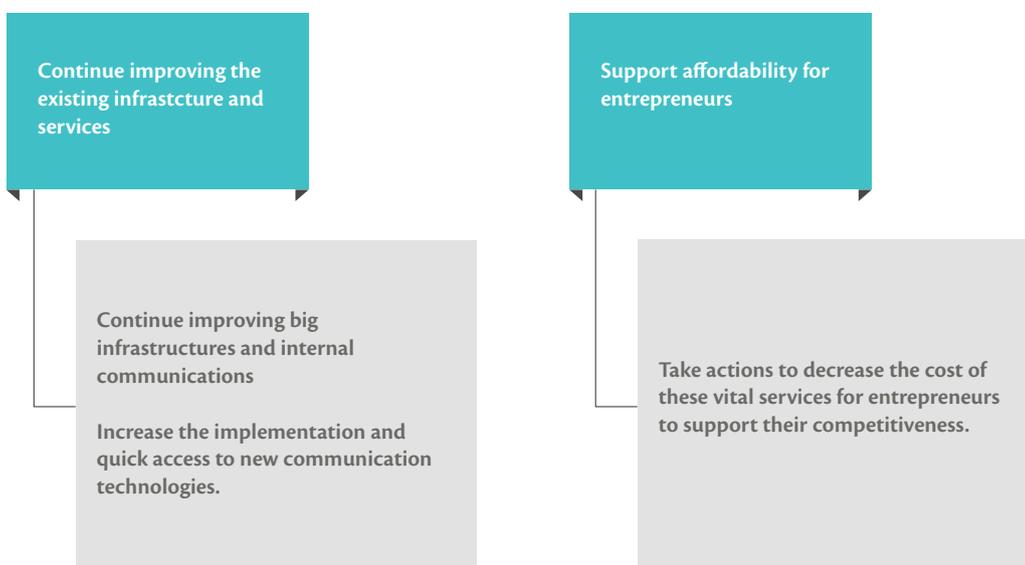


Table 7.9: UAE experts' assessment on social and cultural norms status

Statements: In UAE	Average scores	Standard deviations	Interpretation
The national culture is highly supportive of individual success achieved through own personal efforts	6.83	1.93	Somewhat true
The national culture emphasizes self-sufficiency, autonomy, and personal initiative	6.08	1.95	Somewhat true
The national culture encourages entrepreneurial risk-taking	5.80	2.22	Neither true nor false
The national culture encourages creativity and innovativeness	6.31	2.20	Somewhat true
The national culture emphasizes the responsibility that the individual (rather than the collective) has in managing his or her own life	5.71	2.31	Neither true nor false

Conclusion: The national culture does encourage some of the entrepreneurial values such as supporting individual success, self-sufficiency, autonomy, and personal initiative and creativeness. However, it is less risk-taking than is optimal for successful entrepreneurship.

RECOMMENDATIONS FOR SOCIAL AND CULTURAL NORMS

Change mindset through education and national initiatives

Take actions to increase the presence and implementation of specific entrepreneurial education programs at the educational system.

Increase the presence of examples and news related to entrepreneurs and innovation on the media.

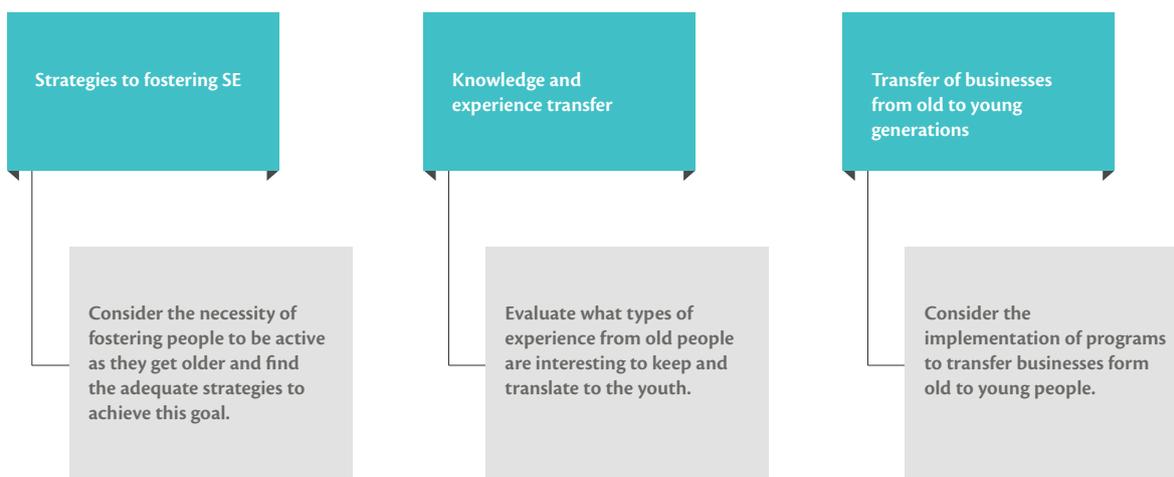
Organize events and prizes around entrepreneurship, creativeness and innovation.

Table 7.10: UAE experts' assessment on factors influencing senior entrepreneurship status

Statements: In UAE	Average scores	Standard deviations	Interpretation
It is more difficult for people aged 50 or over to find a job than for people aged less than 50	7.15	2.06	Moderately true
People aged 50 years and over are living longer, healthier and more active lives than before	7.64	1.34	Moderately true
There are programs and tax benefits to encourage people aged 50 and older to start their own business	4.04	2.53	Moderately false
The experience and accumulated knowledge of people aged 50 or over increases, in general, their chances of successfully starting a business	6.37	2.04	Somewhat true
Entrepreneurs aged 50 or over are more interested in supplementing their income than growing their business	5.54	2.24	Neither true nor false
Most people think that people aged 50 or over should be planning for retirement rather than starting businesses	6.74	1.96	Somewhat true

Conclusion: In the UAE, there are no programs and tax benefits to encourage people aged 50 and older to start their own business although it is more difficult for this part of the population to find a job. There is not a high perception of significant changes about the increment of life expectancies in better conditions or about appreciation and recognition of experience of mature and old people. Experts perceive that entrepreneurs older than 50 are more interested in supplementing their income than in making their business more valuable. They also tend to think that the population sees people of 50 or older more to get retired than to become entrepreneurs.

RECOMMENDATIONS TO FOSTER SENIOR ENTREPRENEURSHIP IN THE UAE



7.2 INTERNATIONAL POSITION

GEM groups the participating countries in two groups (the first is regional and the second reflects the level of competitiveness) so each one can be roughly compared through synthetic indicators on entrepreneurial ecosystem. The UAE indicators are compared to the averages of the Middle East & North Africa countries, GEM and the Innovation-Driven nations.

Figure 7.3 below shows the position of the UAE's ecosystem with respect to the average of countries integrating both the Middle East & North Africa group and the GEM 2016 group. The UAE outperforms the GEM and Middle East & North Africa averages on all aspects. It outperforms most strongly on cultural and social norms and government policies in general and school-level entrepreneurship education. It less well outperforms on physical infrastructure, internal market burdens, internal market dynamics, commercial and legal infrastructure, and R&D transfer. However, its outperformance is weakest on entrepreneurial finance, and post-school entrepreneurship education.

Figure 7.3: Average status of UAE's ecosystem compared to Middle East & North Africa and GEM ecosystems

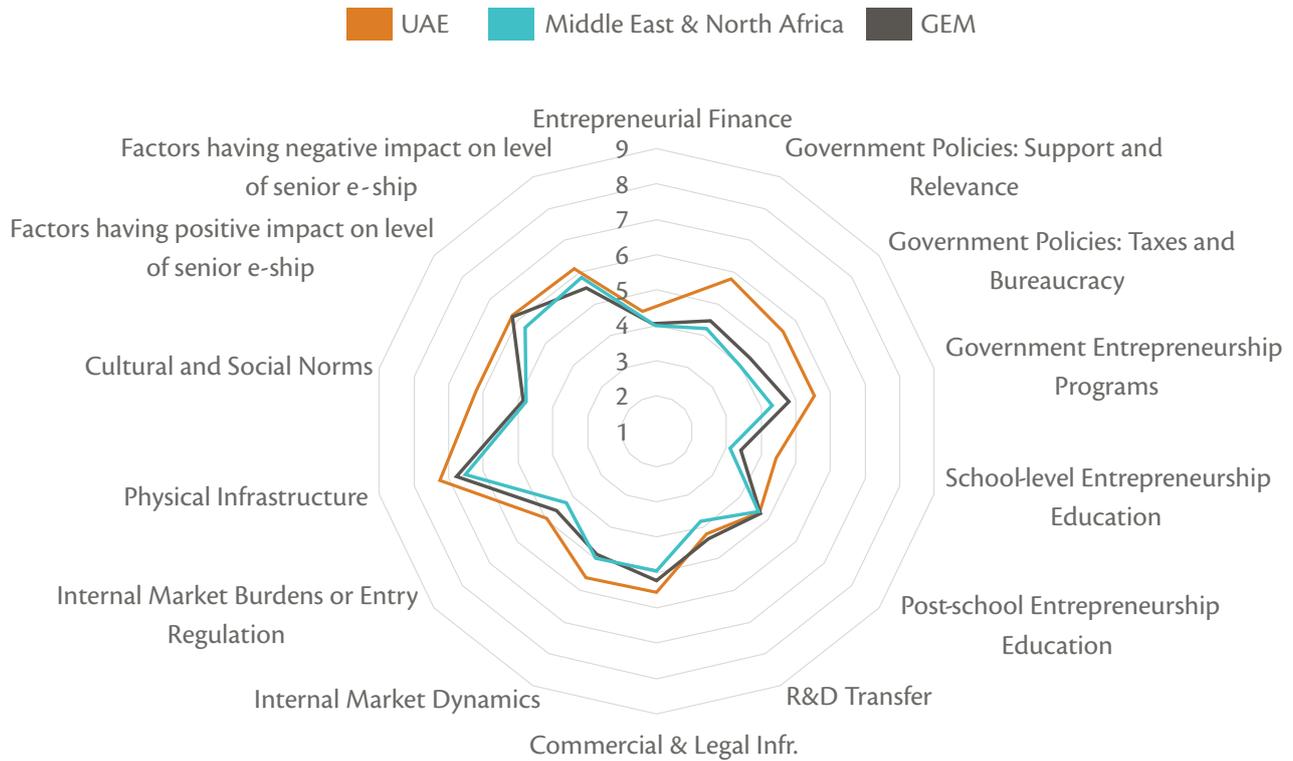
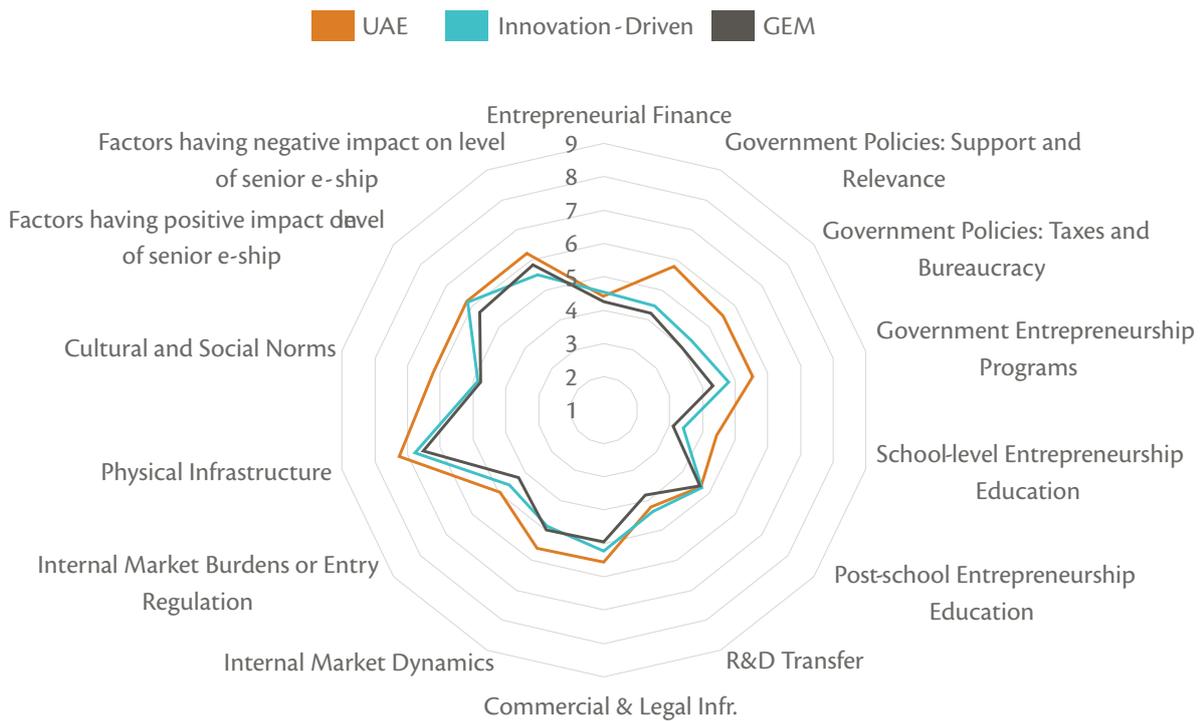


Figure 7.4 below presents the position of the UAE's ecosystem with respect to the average of countries included both in the Innovation-Driven group and in the GEM 2016 group. The picture is very similar, demonstrating that the UAE overall outperforms the average of the Innovation-Driven group of countries. Again, the UAE significantly outperforms with all types of Government policies and programs, school-level entrepreneurship education, and cultural and social norms. The UAE also slight outperforms for physical infrastructure, internal market burdens, internal market dynamics, and commercial infrastructure. However, the UAE has the same performance for post-school entrepreneurship education, and is worse for entrepreneurial finance, achieving the same score as the GEM average.

Figure 7.4: Average status of UAE's ecosystem compared to Innovation-Driven nations and GEM ecosystems



Strength: the overall status of the UAE's entrepreneurial framework conditions is fairly positive, and it is outperforming the average status of GEM, Middle East & North Africa and Innovation Driven ecosystems



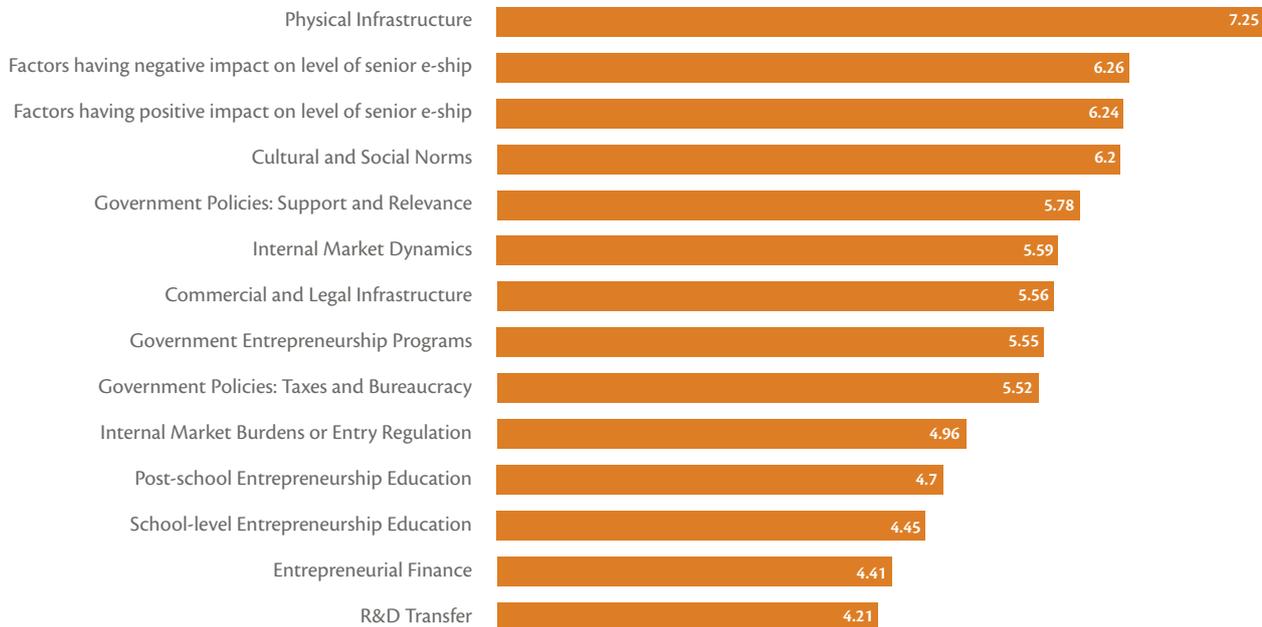
7.3 SYNTHETIC VIEW

Utilizing a principal components factorial technique, the previous NES results can be summarized in synthetic indicators that provide the average status of the entrepreneurial framework conditions. The average results for these indicators are summarized at Figure 7.5 below. The indicators have been ordered from highest to lowest average score. Taking in consideration that the scale to evaluate these concepts is of 9 points, where 1 = highly insufficient and 9 = highly sufficient, the entrepreneurial ecosystem for the UAE present huge opportunities for improvement.

All components of the UAE entrepreneurial ecosystem are weak except physical infrastructure, which is strong at 7.25. Some of them have a score of more than 6, suggesting they are sufficient but could be improved, such as factors having impact on senior entrepreneurship and cultural and social norms. The components which are neither good nor poor, such as those around 5, are internal market dynamics, the commercial and legal infrastructure, and the range of government policies, such as support and relevance, entrepreneurship programs, and taxes and bureaucracy. Weakest, at around 4, is internal market entry, post-school and school-level entrepreneurship education, and entrepreneurial finance. Overall the weakest is R&D Transfer.

If the UAE wants to foster qualified entrepreneurial activity, the entrepreneurial ecosystem must improve most of the key elements that compose it. New strategies and actions from the public and private sector must be gradually implemented to improve the current picture but designers of these strategies must take in consideration the interactions existing between all these elements. Thus, individual actions will not solve the problem. Integral plans including and considering all parts of the ecosystem are needed. Also, it will be important not to delay actions that will give results in the long term such as the implementation of entrepreneurial education at schools, the re-education of the population about entrepreneurial values and the transfer of knowledge and experience from old to young people and from universities and research centres to early-stage, new and established businesses.

Figure 7.5: Averages for indicators on Entrepreneurship Ecosystem in UAE, GEM 2016



Weighted Average of Experts' Scores: 1 = Highly Insufficient, 9 = Highly Sufficient*

For the status of factors having a negative impact on level of senior entrepreneurship the scale must be read as 1 = Highly sufficient and 9 = Highly insufficient, because the statement has negative impact as the score becomes higher.

7.4 TEMPORAL EVOLUTION

Compared to the year 2009, the basic entrepreneurial conditions evaluated in this report have various changes to their average scores (see Table 7.11). For instance, governmental programs and cultural and social norms are considered to have improved dramatically, as has the basic-school entrepreneurial education to a lesser degree. Only incrementally improved are governmental support and policies, R&D transfer, internal market openness and physical services and infrastructure. However there have been large decreases in the availability of financing for entrepreneurs and post-school entrepreneurial education and training, as well as smaller decreases in the commercial and professional infrastructure, internal market dynamics and taxes and bureaucracy. The conclusion is that the UAE entrepreneurial ecosystem is improving in some essential elements over the last seven years, but slipping in others, so attention must be paid to correct this trend and get a better context to foster qualified entrepreneurship.

Table 7.11: Time evolution of average scores for indicators on basic entrepreneurial framework conditions in Likert scales of 5 points* (1 = highly insufficient, 5 = highly sufficient) for UAE

Basic entrepreneurial framework conditions	2009	2011	2016	Change 09-16(%)
Financing for entrepreneurs	3.02	3.10	2.66	-11.92%
Governmental support and policies	3.39	3.34	3.51	3.54%
Taxes and bureaucracy	3.34	3.20	3.30	-1.20%
Governmental programs	2.71	3.14	3.34	23.25%
Basic-school Entrepreneurial Education and training	2.39	2.60	2.68	12.13%
Post-school entrepreneurial education and training	3.30	3.30	2.84	-13.94%
R&D Transfer	2.38	2.56	2.55	7.14%
Commercial and professional infrastructure	3.60	3.45	3.29	-8.61%
Internal market dynamics	3.62	3.60	3.44	-4.97%
Internal market openness	2.85	2.85	3.00	5.26%
Physical and services infrastructure	4.14	4.14	4.25	2.66%
Cultural and social norms	3.04	3.41	3.69	21.38%

* Note: comparisons are made in 5 point scales because GEM changed to 9 points the year 2015, so for comparisons beyond this year, it is necessary the use of old scales.

7.5 NATIONAL EXPERTS VIEWS ON MAIN CONSTRAINTS AND SUPPORTS FOR ENTREPRENEURIAL ACTIVITY IN 2016

Every year, GEM experts of each country identify and comment upon three main constraints and three main supports in the ecosystem for entrepreneurial activities. Their comments are analysed and assigned to one of twenty possible topics. Figure 7.6 shows the distribution of these topics treated as multi-response variables. Once ordered, it is possible to recognize which topics have been more cited by experts. The result is a qualitative approximation to topics that should be most considered to design policies and measures to improve the context where entrepreneurial activity takes place.

For the year 2016 in the UAE, the main aspect of the entrepreneurial ecosystem overwhelming considered a constraint for entrepreneurship is financial support. Closely following these are government policies and then workforce features and government programs (see Figure 7.6 and Table 7.12). The main aspects of the entrepreneurial ecosystem overwhelmingly considered as a support for entrepreneurship is the capacity for entrepreneurship of the population. This is then followed by government policies, and much less, financial support.

Although it can seem contradictory, it is normal that some topics appear at the same time as supportive and constraining. This is the case of government policies, government programs and of financial support. Experts perceive some good policies on entrepreneurship, but at the same time they perceive bad or insufficient policies. Similarly, they recognise that there is some financial support, but that there is nowhere near enough. Moreover, they might see a category of financing available while another dramatically missing in the ecosystem.

Figure 7.6: Topics cited by GEM experts from the UAE as main constraints and supports for entrepreneurship in the year 2016.



Table 7.12: Table for topics abbreviation

Topics	Abbreviation	Topics	Abbreviation
Financial support	FS	Capacity for Entrepreneurship	CFE
Government policies	GPL	Labour costs, access and regulation	LCAR
Work Force Features	WFF	Political, Institutional and Social Context	PISC
Government programs	GPR	Economic Crisis	ECONCR
Cultural & Social Norms	CSN	Commercial Infrastructure	COMINF
Education & Training	ET	Different performing of small, medium and large companies	DPSMLC
Information: all responses related to this issue	INF	Economic climate	ECNC
Internationalization	INT	Perceived Population Composition	PPC
Internal Market Openness	IMO	Corruption	CORR
R&D transfer	R&D	Other, don't know	Other
Physical Infrastructure Access	PIA		

- 1- Capacity for entrepreneurship
- 2- Government policies
- 3- Financial Support



- 1- Financial Support
- 2- Government policies
- 3- Workforce features

7.6 NATIONAL EXPERT VIEWS ON MAIN RECOMMENDATIONS TO IMPROVE THE ECOSYSTEM IN 2016

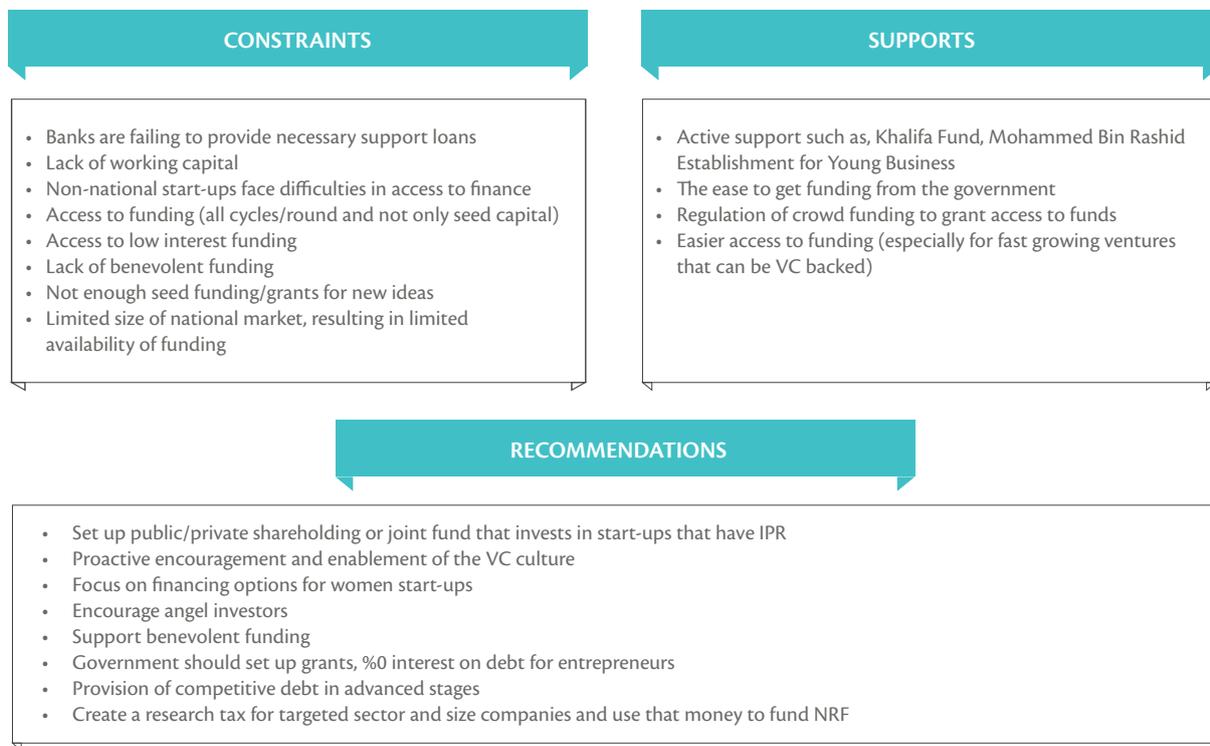
Additionally, GEM experts provide three recommendations to improve the entrepreneurship ecosystem. The topics identified after analysing their opened responses are those showed at the distribution on Table 7.13. For 2016 the experts recommend, overall, to put the focus on financial support, and designing and implementing measures related with government policies, government programs, education and commercial infrastructure (see Figure 7.7 below). We also show their comments related to R&D transfer and social norms since the first obtained the lowest score by UAE experts and the latter is related to fear of failure for which the UAE has the highest score worldwide.

Table 7.13: Topics cited by GEM experts from The UAE to make recommendations to improve the entrepreneurship ecosystem the year 2016

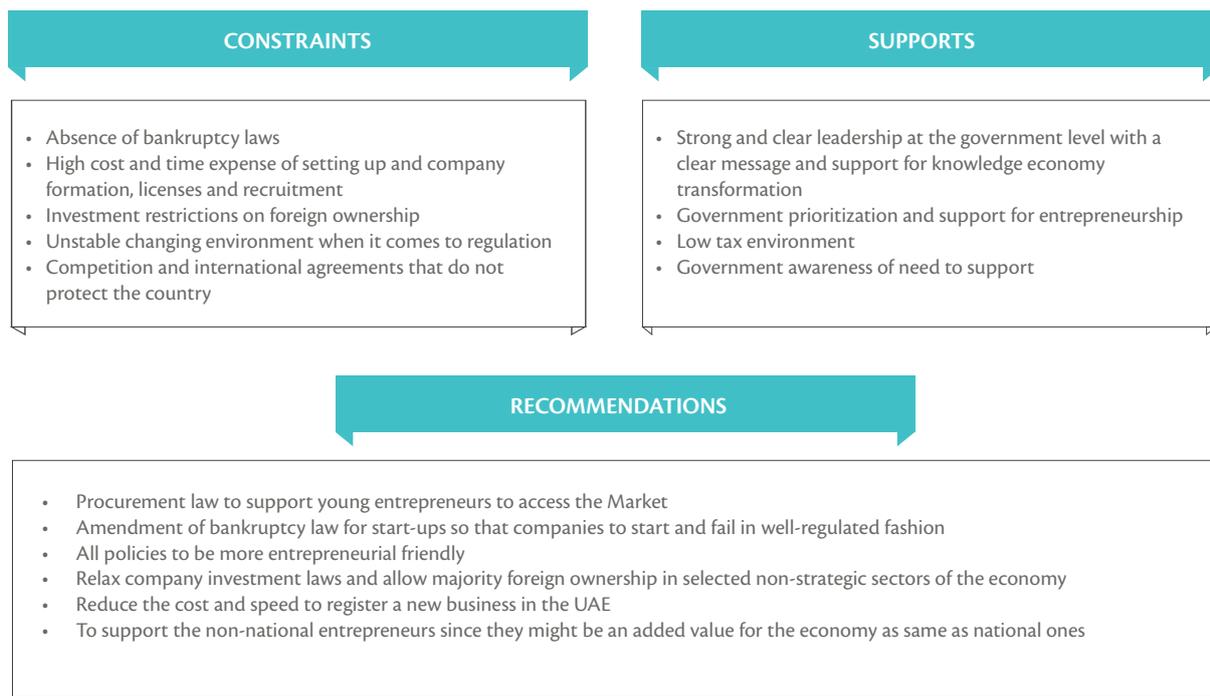
Constraints: topics cited	% over valid responses
Financial support	61.76
Government policies	52.94
Education & Training	35.29
Government programs	35.29
Commercial Infrastructure	20.59
Labor costs, access and regulation	14.71
Information: all responses related to this issue	8.82
Corruption	8.82
R&D transfer	5.88
Cultural & Social Norms	5.88
Political, Institutional and Social Context	2.94
Internal Market Openness	2.94
Capacity for Entrepreneurship	2.94
Physical Infrastructure Access	0.00
Different performing of small, medium and large companies	0.00
Economic climate	0.00
Work Force Features	0.00
Perceived Population Composition	0.00
Economic Crisis	0.00
Internationalization	0.00
Other, don't know	0.00

Figure 7.7: Pictogram summary of GEM UAE experts' opened responses (2016) on constraints, support, and recommendations about selected entrepreneurship ecosystem conditions

FINANCE



GOVERNMENT POLICIES



EDUCATION AND TRAINING

CONSTRAINTS

- Much learning is 'learning by rote' through memorisation, as opposed to learning through experimentation and critical thinking.
- Lack of world class engineering school.
- Science education lagging
- Lack of basic digital and business literacy skills

SUPPORTS

- Growing inclusion of entrepreneurship in university and school curriculum

RECOMMENDATIONS

- Start building a culture and practice in an early age
- Establish youth focused networking events for entrepreneurs
- More support and coaching centres for new start-up entrepreneurs
- Introduce Entrepreneurship and innovation curriculum in the schools
- Specialty schools for entrepreneurship
- Reforms to the education system to ensure a critical thinking approach to learning in the early years

GOVERNMENT POLICIES

CONSTRAINTS

- Lack of institutional capacity building for young entrepreneurs
- No direct and transparent programs for entrepreneurs
- Low availability of incubators
- Lack of structural and integrated incentives

SUPPORTS

- Availability of incubators and accelerators
- SME development agencies available
- Ease of new business set up through Free zones, tax and duty exemption
- Agencies to provide some programs, grants and services mainly for Emiratis, which is the case of the private sector
- Many awards for UAE entrepreneurs like Mohammed Bin Rashid SME Award

RECOMMENDATIONS

- Increasing entrepreneurs at early levels along with coordination with successful ideas
- Enhance incubation and acceleration support for entrepreneurs
- Encourage employment of Emiratis in the private sector
- Promoting youth entrepreneur/current programs
- Support women and youth entrepreneurship at all levels
- Continuous nationwide competitions to identify talents

COMMERCIAL INFRASTRUCTURE

CONSTRAINTS

- No single place for provision of entrepreneurial support services

SUPPORTS

- Adequate services and infrastructure
- Ease of establishment and doing business

RECOMMENDATIONS

- Establishment of one stop shop entrepreneurial service centres

CULTURAL AND SOCIAL NORMS

CONSTRAINTS

- Fear of losing initial investment
- Relatively unattractive to work in the private sector compared to the public sector, in particular for young UAE nationals
- High fear of failure with low risk tolerance
- Poor management of personnel & family obligations
- Shame in starting small

SUPPORTS

- Country culture
- Family support

RECOMMENDATIONS

- Encourage stronger and more resilient family units
- Balance relative attractiveness of public vs. private sector for employees
- Create a culture that entrepreneurs learn from each other and share their challenges, failure, successes, etc

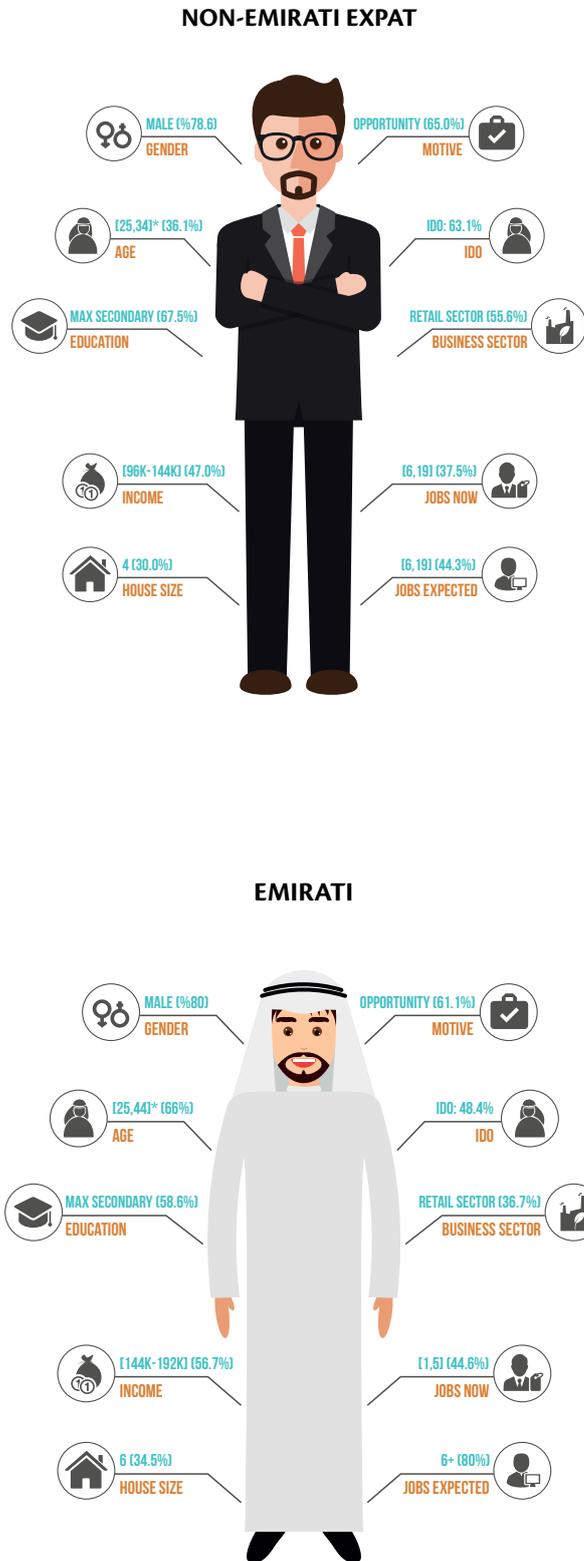
CONCLUSION: SUMMARY & RECOMMENDATIONS FOR POLICY AND PRACTICE

From the beginning of the current century, entrepreneurship has been seen, and remains, as one of the key factors to end poverty. But making it work properly for this purpose is not simple. Thanks to GEM, the study of the determinants of entrepreneurial activity reveals the complexity and diversity of entrepreneurial contexts and the spread of its results in terms of start-up initiatives, its economic value and its contribution to countries sustainability and economic development.

We draw our recommendations for policy and practice to guide decision-making from the up-to-date information about the multi-dimensional nature of entrepreneurship in the UAE that we provide in this report. We urge the UAE government to focus on a series of reforms that will help create an enabling environment that fosters innovation and facilitates the building of even more supportive ecosystem in which entrepreneurship can flourish to create more productive and competitive economy, better job opportunities for all segments of population and higher level of well-being and inclusiveness.

1. **Societal values and individual perceptions** contribute to explanations of the level of entrepreneurial activity in the UAE.
 - a. More than three fourths of the adult population in the UAE considers starting new businesses as good career choice and those successful at starting a new business have high level of social status and respect. However, the UAE adult population prefers less competitive society with a clear penchant towards similar standards of living (85.6%).
 - b. Most of the UAE adult population believes that they know people starting a business (61.7%) and think that they have the required knowledge and skills to start a new business (55.2%), a characteristic that was also highlighted 60 times as a factor that fosters entrepreneurial activity by the national experts in their assessment of the ecosystem. Yet, only few (25.8%) perceive opportunities to start a new business in the areas where they live and a little over half (54.3%) would not start a new business because of their fear of failure.
2. **The profile of the UAE entrepreneur in 2016.** UAE early stage entrepreneurship activity (TEA of 5.7%) is undertaken by a male (4.5%), non-Emirati expat (73.9%), who is 38 years old, lives in Abu Dhabi (36.8%), has a university degree (58%), works full or part time in his business (91.2%), lives in a household of almost 5 members and whose annual income is between 100,000 and 150,000 AED (54%). It is important to highlight that the rate of students or retired who are involved in early-stage entrepreneurial activities in the UAE is the highest compared to all countries in this study. (Our focus here is on individuals who are involved in the Total Early-stage Entrepreneurial Activity [TEA], which measures the percentage of a country's working-age population who are actively trying to start a new business [nascent entrepreneurs] and those who at least partially own and manage a business less than 3.5 years old [a baby business] [Reynolds et al 2005, Bosma, et al 2008, 2009]).
3. **Emiratis are two times more entrepreneurial than non-Emirati expats.** Overall, 26.1% of TEA in the country is undertaken by Emiratis (73.9% of TEA by non-Emirati expats). Emirati early stage entrepreneurs represent 10.1% of the Emirati population living in the UAE (the highest % is in Dubai with 12.4% and the lowest % is in Northern Emirates with 5.1%). The rate of non-Emirati expats involved in TEA compared to the total expats population living in the UAE is 5% (the highest rate is in Sharjah with 7.8%).
4. **The profile of the UAE informal investor in 2016.** The UAE informal investor in 2016 is a male (68.6%), who is 37.5 years old, has post-secondary educational level (56%), works full or part time (91.6%), knows entrepreneurs that recently started-up businesses (88.3%), has been involved in an early stage entrepreneurial activity (37.1%), perceived good opportunities to start-up in the zone where he lives (74.8%), is funding a work colleague (49.2%), and whose income belongs to the highest earners percentile (59.5 %). Finally, since the share of beneficiaries who are strangers with a business idea is only 1.2% in 2016, it seems that new private financing channels like crowdfunding are still not embraced in the UAE. We call on academics to further investigate this phenomenon. The temporal evolution of both TEA and the percentage of people who declared having acted as informal investors show a continuous decrease since 2009. 8.7% of people were acting as informal investors in 2009, a percentage that dropped to 4.4% in 2016. The average individual contribution of informal investors has also dramatically decreased from 100,000 AED in 2009 to 30,000 AED in 2016. Policy makers should focus on measures to incentivize people to act as informal investors as this will increase the seed funds available at early stage to support entrepreneurial activity.

Figure 8.1: Profiles of Emirati and Non-Emirati Entrepreneurs in the UAE



5. The UAE has an apparent low TEA in 2016 (5.7%). Generally, countries which economic growth is largely driven by innovation have lower rate compared to the other stages of development (factor-driven and efficiency-driven). The TEA in the UAE is much lower than the average of innovation-driven economies (9.1%). Yet, although this should be interpreted cautiously, it should be considered as a negative indicator. Countries like Malaysia, France, Germany, Italy and Spain have lower TEA. Several hypotheses exist to explain this trend. First, there are a larger number of attractive existing employment opportunities than in less competitive economies, which raises the opportunity costs of starting a business in these highly competitive economies; second, the high skill level required to start a business that can compete in a highly competitive market environment raises the barrier to entry for new entrepreneurs. Third, cultural factors involving greater risk-aversion could play a role in reduced entrepreneurial motivations (Drexler and Herrington, 2015), which could be also the case in the UAE. However, we believe that the UAE government should focus its actions in improving existing ecosystem conditions, which, combined with existing levers, could increase the level of TEA in the next years in the very specific areas that will support the shift towards a knowledge economy driven by quality of growth.
- The level of intentions to start a business in the UAE (49.3%) is high enough and reflects the higher rate of the UAE adult population that considers starting a new business as a desirable career choice (75.1%).
 - If 61.7% of the UAE adult population know people who started businesses and 55.2% feel they have the ability and skills required to start a business, then why intentions are not transformed into actions?
 - The answer is that the UAE adult population has the highest fear of failure (54.3%) in the world. Moreover, 74.2% of the population are not able to spot opportunities. Over the previous ten-year period, the rate of fear of failure has doubled (from 26.6% to 54.3%) and the rate of perceived opportunities has steadily decreased from 41.3% to 25.8%. This trend is more noticeable for males, which reflects a gender effect on the lack of individual risk-taking.
 - If we consider Emiratis and Non-Emirati perspectives (Table 8.1 below), we can see that the 5.7% TEA in 2016 is composed of 4.2% TEA by non-Emirati expats and 1.5% by Emiratis. Knowing that Emiratis represent only 10% of the overall population living in the UAE, it is apparent that Emiratis are at least two times more involved in early stage entrepreneurial activity than non-Emirati. Yet, if we look at potential entrepreneurs, the 49.3% of intentions come mainly from non-Emirati (41.6%). So the problem of transforming intentions into real business setups is more important for non-Emirati. And this problem is clearly related to their fear of failure, as among the 54.4% average, 43.7% are non-Emirati. This might explain why the rate of nascent activity for non-Emirati is very low (0.9%) compared to the TEA of 4.2% for the same population. This attests to a recent trend where non-Emirati expats have less inclination towards undertaking entrepreneurial activity. At the same time, if we consider the ratio of nascent to new businesses, and if we assume the same nascent rate during the previous 42 months, the ratio would be of 5 for Emiratis and 3.8 for non-Emirati expats. This means that the mortality of new ventures is higher for Emiratis compared to non-Emirati. This also means that some of the ventures launched by Emiratis during the three previous years were very risky and not duly screened at the beginning. The high mortality, which is due to a poor decision, might adversely affect the fear of failure rate and induce even higher adversity in the future. Our analysis suggests the need for a combined series of actions targeting Emiratis and non-Emirati to increase TEA in the UAE. For the first group, there might be a need to support them perceive the right opportunities with viable economic prospects, while for the second group, legal reform is required to reduce their fear of failure. This will be further described in the next paragraphs.

Table 8.1: Statistics about TEA in the UAE in 2016

FEAR OF FAILURE EMIRATIS	FEAR OF FAILURE NON-EMIRATI EXPATS
10.7%	43.7%
EMIRATIS POTENTIAL ENTREPRENEURS	NON-EMIRATI EXPATS POTENTIAL ENTREPRENEURS
7.7%	41.6%
TEA EMIRATIS	TEA NON-EMIRATI EXPATS
1.5%	4.2%
TEA / POTENTIAL ENTREPRENEURSHIP EMIRATIS	TEA / POTENTIAL ENTREPRENEURSHIP NON-EMIRATI EXPATS
0.2	0.1
EMIRATIS NASCENT ACTIVITY	NON-EMIRATI EXPATS NASCENT ACTIVITY
0.4%	0.9%
EMIRATIS NEW BUSINESS ACTIVITY	NON-EMIRATI EXPATS NEW BUSINESS ACTIVITY
1.1%	3.3%
NASCENT TO NB FOR EMIRATIS	NASCENT TO NB FOR NON-EMIRATI EXPATS
5	3.8

6. **The size of the established business sector in 2016 is very low (1.9%).** This is most likely because of a low nascent activity over a prolonged period and / or a high mortality of new ventures. With a 4.4% new business activity rate in 2016, assuming the same discontinuation rate of 3.7% during the last 3 previous years, the nascent activity would have been close to 1.1% since 2013. On the other hand, we believe that the discontinuation rate has been high since 2011. Among the reasons behind the failure in consolidating businesses and the increased mortality of some new ventures, we suspect potential increased internal issues due to discord within founding teams. From 2007 to 2011, both early stage and established businesses were run by teams of an average close to 2.5, while early stage activities are still run by teams of 2.41 in 2016, the average has significantly dropped to 1.4 for established businesses. A close examination of the dynamics behind the formation of entrepreneurial teams is needed to help address this problem in the future.
7. **There are more discontinued businesses (3.7%) than new start-ups (1.3%) in the current year.** Yet, since 2.3% of discontinued businesses continue in other hands, only 1.3%, those who exited the market, representing the real business destruction. However, since few of these exits were planned (compared to the other countries, the UAE has the lowest rate of businesses that planned the exit in advance, with only 0.97%), and since 48.3% of entrepreneurs have discontinued for profitability reasons or for difficulties to raise funds, there is still a high risk of mortality for the businesses in the UAE that have changed hands, which could affect adversely the rate of established businesses in 2017. It could also compound individual perceptions issues, which might also induce a continuous low rate of nascent activity in the future.
8. **In the UAE opportunity-driven entrepreneurial activities have gradually decreased since 2009** whereas necessity-driven and other motives have risen. For instance, 83.3% of Emiratis entrepreneurs and 56.8% of non-Emirati expats in Abu Dhabi were driven by necessity in 2016. The highest TEA by opportunity is recorded in northern emirates by non-Emirati expats (100%), followed by the non-Emirati expats in the emirate of Sharjah (84.2%). This result may suggest that increasingly people are somewhat forced into starting a business due to unfavourable circumstances, such as falling oil and gas prices. However, since the TEA has constantly decreased since 2006, our conclusion is that while necessity driven entrepreneurs kept starting businesses, those who dropped out are opportunity-driven entrepreneurs. This result is confirmed by the observation that although gaining more independence is the driver for 82% of entrepreneurs involved in new business and 92% of those having established businesses, 61.3% of those involved in nascent activity in 2016 are doing so to increase their personal income, and only 38.7% are looking for greater independence. These results bring us back to the conclusions highlighted above. Entrepreneurs in the UAE are deterred by their fear of failure and are less able to spot opportunities on the market, which limits entrepreneurial activity to the ventures which are increasingly established by people driven by necessity or to increase their personal income.
9. **Entrepreneurial activities in the UAE are actively creating jobs.** Most early stage entrepreneurs (37.2%) have created in average 6 to 19 jobs in 2016. There are no early stage ventures with any employment in 2016. Besides the positive job creation by early stage entrepreneurial activities, almost 50% of the established businesses in the UAE employs more than 20 employees in 2016 and the percentage of activities with no employment has passed from 9.1% in 2007 to 0% in 2016. When the two groups are combined, the size of employment by entrepreneurial activities at all stages is growing in the UAE, which is a desirable trend. However, aspirations are more mitigated in 2016. While those aspiring to become high growth established businesses in the next five years (those who will employ more than 20 employees) were two times those employing more than 20 people in 2016, high growth early stage entrepreneurs' optimism is less obvious. In 2009, early stage entrepreneurs who were aspiring to employ more than 20 people in the next 5 years were two times more than those who were employing such a number. Yet, this proportion has decreased to 1.2 in 2016. Although that GEM does not test the expressed growth potential to see if some entrepreneurs were unduly optimistic in terms of their projections, we suggest that UAE policy makers offer regulatory burdens alleviation and targeted financial support to realistic high-medium growth entrepreneurs to help them flourish and to optimize their impact to better support quality of growth.

- 10. Policy makers need to consider actions to increase the TEA.** Our focus here is on the level of the entrepreneurial activity needed to maintain a balance between business creation and destruction. We will talk later about the kinds of entrepreneurial activity needed in the UAE that we believe can drive more economic dynamism, job creation, societal wealth, and further improvements in standards of living and overall the well-being.
- a. Analysis suggests that non-Emirati expats consistently view aspects of entrepreneurship more positively than Emiratis. For instance, 84.4% of non-Emirati expats view those who start businesses having a higher level of respect compared to 70.5% of Emiratis, and 76.6% of non-Emirati expats consider starting a new business desirable compared to 65.4% of Emiratis. They also consider starting a business easier (69.6%) than Emiratis (58%). However, overall Emiratis are relatively more involved in entrepreneurial activities at all stages: although they represent only 10% of the overall population living in the UAE, Emiratis comprise 30.8% of nascent businesses, 24.7% of new businesses and 24.3% of established businesses.
 - b. From a regional perspective, people in the Northern Emirates consider becoming an entrepreneur more a desirable business choice (90.6%) and feel that those who start a business have a high level of status and respect (92.3%) as compared to all the other Emirates. Starting a business is also considered rather the easiest (85.3%) in the northern emirates compared to all the other regions. When it comes to entrepreneurial activity, nascent businesses are most common in Abu Dhabi (55.6%), which means that this emirate is becoming relevant focus for potential entrepreneurs to start-up. Dubai seems to have the highest proportion of new businesses (33.3%), which means that the entrepreneurial activity is more in consolidation process in that emirate where there is the least proportion of nascent entrepreneurs (7.4%). The greatest proportion of established businesses in Sharjah (51.4%) attests of lower mortality for nascent and new ventures in this emirate. There is also similar proportion of nascent (29.6%) and new entrepreneurial activities (28.9%) in Sharjah, which confirms the same trend. Although entrepreneurial activity in Northern emirates is still limited, balanced rates between nascent (7.4%), new (6.7%) and established businesses (5.4%) are observed, which attests of lower mortality for nascent and new ventures in these emirates.
 - c. It is important to highlight that, although they have the lowest level of knowledge, skills and experience required to start a new business, adult population with no university education are the ones who have the lowest level of 'fear of failure' to start a business and also the ones who know more someone who personally started a business in the past 2 years. They are also more willing to start a new business in the area where they live compared to more educated people. Providing them with relevant business and management education or training programs may help increase significantly the level of entrepreneurial activity in the country.
- 11. An effective way to increase the level of TEA,** mainly the nascent activity, could be by encouraging mixed and diverse entrepreneurial teams to offset the fear of failure of individuals when they act individually.
- a. Recent works of professor Ha-Joon Chang from the Cambridge University (UK), explain clearly some of these points: "Many people believe that the lack of entrepreneurship is one of the main causes of poverty in developing countries. However, anyone who is from or has lived for a period in a developing country will know that developing countries are teeming with entrepreneurs. In contrast, most citizens of rich countries have not even come near to becoming an entrepreneur. They mostly work for a company, doing highly specialized and narrowly specified jobs, implementing someone else's entrepreneurial vision. The upshot is that people are far more entrepreneurial in the developing countries than in the developed countries. Moreover, even those people who are running businesses in the richer countries need not be as entrepreneurial as their counterparts in the poorer countries. For developing country entrepreneurs, things go wrong all the time. Compared to the richer countries, we have far more people in developing countries (in proportional terms) engaged in entrepreneurial activities. On top of that, their entrepreneurial skills are much more frequently and severely tested than those of their counterparts in the rich countries. But these more entrepreneurial countries are the poorer ones. Why? The discussion so far shows that what makes the poor countries poor is not the lack of raw individual entrepreneurial energy, which they in fact have in abundance. It is their inability to channel the individual entrepreneurial energy into collective entrepreneurship. In the richer countries, enterprises co-operate with each other a lot more than do their counterparts in poorer countries. Even at the firm level, entrepreneurship has become highly collective in the rich countries. Today, few companies are managed by charismatic visionaries like Edison or Gates, but by professional managers. If effective entrepreneurship ever was a purely individual thing it has stopped being so, at least for the last century. The collective ability to build and manage effective organizations and institutions is now far more important than the drives or even the talents of a nation's individual members in determining its prosperity. Unless we reject the myth of heroic individual entrepreneurs and help them build institutions and organizations of collective entrepreneurship, we will never see the poor countries grow out of poverty on a sustainable basis".

- b. Applying these insights to the local situation, the UAE needs to host more events, programs and opportunities that bring together Emiratis and non-Emirati expats; people from different emirates; with different educational levels; males and females, senior entrepreneurs and younger ones. This could be effective in promoting entrepreneurial teams that would combine knowledge, skills, networks, and risk-taking aptitude to start a business. Initiatives at the federal level designed with this objective in mind are to be encouraged.

12. **Help entrepreneurs spot opportunities to also improve the TEA.** According to Kirzner (1973), the essential entrepreneurial act is the noticing and acting upon a profit opportunity, which in turn will help balancing an economy and a more efficient allocation of resources. Yet, how to improve opportunity recognition and how to generate the spark that ignites entrepreneurial activity? There are many approaches to increase perceived opportunities such as creating the conditions for entrepreneurs to better discover opportunities, to create them or to combine both approaches through an ambidextrous methodology. To seize opportunities, entrepreneurs should be prepared to seize them.

- a. **The entrepreneurial activity does not occur in a vacuum.** Instead, it is highly embedded in a cultural, social and economic context. For that purpose, the UAE environment should be rich in entrepreneurs. Dubai Future Accelerator (DFA) is a remarkable initiative recently launched by the government of Dubai through Dubai Future Foundation (DFF). This interesting case will demonstrate the impact of exceptional entrepreneurs coming from all over the world on the UAE local environment and entrepreneurs (see case study).
- b. The study of the entrepreneurship ecosystem in the UAE shows that many initiatives have been done to create such an environment such as the remarkable physical infrastructure, the progressive government vision and policies as well as their translation into entrepreneurship programs. Still, remain to be improved many other conditions to create opportunity seekers. The UAE needs to have more “seedbeds” where resources are available and visible and where needless deterrents are curbed. Creating one-stop shops is important for the purpose.
- c. Also, these seedbeds should help potential entrepreneurs perceive viable opportunities through increased information and awareness. Hence, increasing the diversity of possible opportunities is key. This could be achieved through the creation of more open innovation spaces and events to bring together problems’ owners and solvers. It also requires spotting the public concerns for which entrepreneurs might respond. That is why, we consider the shift of the UAE towards promoting the quality of growth and the wellbeing of its citizens as a major shift that is creating new public concerns, and the conditions for changing attitudes and norms, which could give rise to new preferences and could be translated into new opportunities. Hence, these fundamental shifts need to be highlighted, debated, researched and raised to public to increase the potential of entrepreneurs to seize them as viable entrepreneurial opportunities.
- d. Finally, developing programs to promote the capacities of potential entrepreneurs is fundamental. This requires supporting ideation through design thinking, rapid prototyping and lean methodology. And it could be done through pre-incubation programs to be developed in schools, colleges, universities, science parks, incubators and companies to develop the capacities of people to think the unknown and to be more creative.

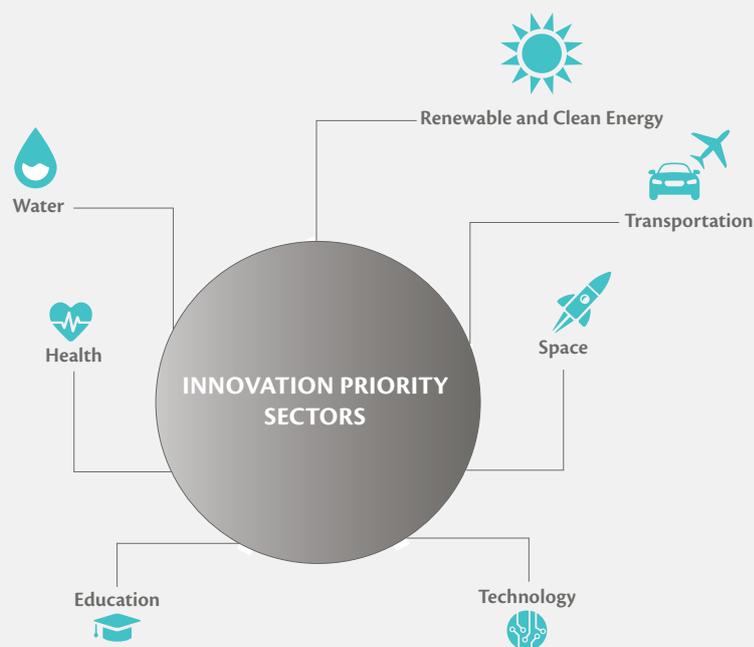
CASE STUDY: DUBAI FUTURE ACCELERATORS: PULLING THE FUTURE FORWARD FASTER ²⁸



The Dubai Future Accelerators (DFA) was launched in 2016 by His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai, and the Chairman of Dubai Future Foundation under the directives of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Ruler of Dubai. The DFA vision is to make Dubai the birthplace for new technologies that will exponentially shape the course of humanity over the next century. DFA's mission is to imagine, design and create the future by facilitating partnerships between forward-thinking innovators/entrepreneurs and the government; using the city of Dubai as a living test bed.

By ringing a global bell the DFA offers Dubai' government institutions and agencies with mega challenges related to the UAE National Innovation Strategy priority sectors (see table 8.2 below) ²⁹ to global organizations willing to showcase their transformational solutions, for the opportunity to win prototype funding and contracts.

Figure 8.2 the UAE National Innovation Strategy priority sectors



²⁸ This case is co-authored by Scott Gillespie and Prof. Nihel Chabrak

²⁹ <http://www.uaeinnovates.gov.ae/docs/default-source/pdfs/national-innovation-strategy-en.pdf?sfvrsn=2>

Governments around the world face common challenges (mass transit, public safety, health, education, water, renewable energy). Many global governments vexed by challenges, will look to the UAE and their showcase of solutions as a guide for options they should consider. Table 8.2 below outlines recent DFA' challenges:

Table 8.2: List of authorities involved and their proposed challenges.³⁰

Authority	Challenge
ROADS & TRANSPORT AUTHORITY (RTA)	Prototype automated mass transport and freight delivery systems that cut congestion by half and reduce transport-related CO2 emissions by 50 per cent across all modes
DUBAI POLICE	Test integrated behavioral, genetic and biological systems for identifying, tracking and sharing information on criminals that are 10x more accurate and 10x more efficient.
DUBAI MUNICIPALITY	Test automated, recycled, and nature-inspired building systems that use 3x less energy and CO2 and are 5x more effective (including robotics, automation, bacteriological, mycology, algae, biomimicry, regenerative systems, sand-based 3D printing materials, and others)
DUBAI HEALTH AUTHORITY	Harness Dubai's remarkable genetic diversity to enhance diagnostic speed and effectiveness by a factor of 10 (using genomics, analytics, telepresence and personalized medicine).
KNOWLEDGE AND HUMAN DEVELOPMENT AUTHORITY	Prototype 21st century assessment systems and personalized learning solutions that work across curriculums to offer 5x greater flexibility, 2x lower cost, and 10x better learning outcomes (with an emphasis on Arabic language education, STEAM, wellbeing, coding, and other disciplines).
DUBAI HOLDING	Deploy digital solutions across the hospitality, food and beverage, and real estate sectors that reduce paperwork and the need for human intervention by a factor of 10, increase transaction speeds by a factor of 20 and increase customer engagement by an order of magnitude (including Blockchain, digital personalization, robotics, augmented and virtual reality, etc.).
DUBAI ELECTRICITY AND WATER AUTHORITY (DEWA)	Reduce water and energy consumption by a factor of 10 and increase production and distribution efficiency through the use of renewables, intelligent & automated systems, biological solutions and other means

In addition to mentors, access to the DFA workspace, prototyping facilities and an immersion for impact, the DFA program provides airfares and accommodation for teams to be based in Dubai for exploratory period. The first cohort of accelerator companies arrived in September 2016 ready to understand the UAE market needs, explore, design, and develop emergent technologies and approaches with a view to their "rapid deployment across Dubai". By taking part in the program the companies gave up no equity, but had the opportunity to form a memorandum of understanding (MoU) agreement with sponsoring UAE' agencies.

The big number of applications received for being part of the first cohort highlights the global nature of Dubai's challenge and keen interest from global innovators to be involved. Impact from the first cohort was impressive with a 63% success rate (defined as achieving an acceptable MoU). 19 MoU were signed.³¹ Companies accepted into the program ranged from the health business of the Fortune 100 multinational conglomerate Honeywell through to early stage technology companies founded in the past few years, such as Hyperloop One and Consensus. A second expanded call was issued in early 2017 for a fresh set of contemporary challenges and UAE sponsoring partners (increasing from 7 to 12).³²

The Dubai Future Accelerators is a single initiative within the broader UAE and Dubai' framework's for transforming the UAE into an innovation-driven economy. The DFA contributes directly to the GEM ecosystem conditions and highlights the opportunity to simultaneously stimulate homegrown entrepreneurs and import relevant, transformational innovations into an UAE and MENA ecosystems where societal and cultural norms, financing, government policies, training, and infrastructure are ready for entrepreneurial output. More importantly is the opportunity the DFA might represent for the UAE entrepreneurs to come in close contact with great minds. Dubai continues to demonstrate its leadership as a 'living lab' by showcasing innovations, entrepreneurs and solutions to mega challenges.

³⁰ Source: <https://dubaifutureaccelerators.com/en/cohorts>

³¹ <https://dubaifutureaccelerators.com/en/press>

³² <https://dubaifutureaccelerators.com/en/cohorts>

- 13. Another way to increase the TEA is to help maintain new businesses by reducing new ventures' mortality.** The question to be raised at this level is to know how to prevent new ventures from "beginning wrongly". Undeniably, when entrepreneurs engage in a wrong path, most likely they will perish despite their attempts to change their course of action or behaviour afterwards. How to help entrepreneurs in the UAE sustain their businesses until they become established?
- Help the start-ups founders face the "liability of newness" (Stinchcombe, 1965) and its inherent three forms of novelty – novelty to market, novelty to management and novelty in production. The "liability of newness" is also associated with legitimacy, reliability and accountability issues, which result from the new venture' lack of an established track record, which in turn, makes it difficult for its managers to convince potential resource providers such as investors, suppliers and customers, to conduct business with the new venture. Hence, the role of business incubators and accelerators is not only to provide co-working space, training and seed funding to newly established firms, but also to increase the favourable judgments of acceptance, appropriateness and worthiness to help them face the liability of newness. Without resources – capital, raw materials and continuing sales – start-ups face dim survival chances. Most entrepreneurship programs in the UAE called acceleration programs are focused on scaling up start-ups during a short period of time, generally characterized to be their "honeymoon" period, which generally diminishes over time. This wrong focus prevents addressing the fundamental internal deficiencies that start appearing after an initial peaceful period, which quickly create operational disadvantages new ventures are not able to face alone mainly in a dynamic and competitive market. Hence, the incubator / accelerator structures and programs are not providing the adequate conditions to transform the rapid growth start-ups may exhibit in the first few months into a sustainable growth.
- 14. On the type of entrepreneurship to promote,** it is important to highlight that policy makers build their decisions considering the type of entrepreneurial economy in which the entrepreneurship policy is being conducted, the specific entrepreneurial outcome to be achieved, and the levers available to achieve the specific desired outcome.
- The UAE has the required institutions, although there is still a room to improve the legal framework to support a risk-taking culture at the individual level. The legal reform is crucial to reverse the high fear of failure rate mainly for non-Emirati expats to start businesses.
 - Moreover, although the focus in a factor-driven economy (agriculture) is on entrepreneurial attitudes in the population, in an efficiency-driven economy (manufacturing) the focus is on individuals to encourage them to start businesses. In an innovation-driven economy (knowledge-based economy) like the UAE, the focus should be on individuals to create very large and successful businesses with innovative components. In the GEM, they are called ambitious (who project to employ more than 20 employees in the next 5 years) and innovative (who introduce a new, unique product or service into a market) entrepreneurs.
 - Ambitious early-stage entrepreneurs according to the GEM-WEF report (2015) are those who are not content with self-employment. They need to create a significant organization to pursue and fulfil their goals. Generally, the more competitive an economy, the greater the share of ambitious early-stage entrepreneurs among all early-stage entrepreneurs and this is the case in the UAE as explained above. The UAE needs to focus on identifying and supporting ambitious early-stage entrepreneurs because if their expectations materialize the country is more likely to create more jobs. Previous studies show that ambitious early-stage entrepreneurs start businesses primarily to pursue an opportunity, rather than for reasons regarding lifestyle. The typical profile of this entrepreneur as reported in previous studies is a male, highly educated and working with a team of other owner-managers.
 - Innovative early-stage entrepreneurs are those who offer a product or service, which is new to some, if not all, consumers in a given market in which few, or no, other businesses offer the same product. There are two forms of innovation like Peter Thiel's analysis: vertical progress is akin to the development of new technologies and horizontal progress is globalization. Therefore, an innovative early-stage entrepreneur could be one who introduces an entirely new product or service to the world, or one who introduces a product or service that is already offered in one market into another where it had previously not been offered. In the UAE, the focus could be to increase first the number of innovative early-stage entrepreneurs who are more likely to innovate "horizontally" and later when more knowledge creation, absorption and transfer has been made, the proportion of innovative entrepreneurs who are more likely to innovate "vertically" would increase naturally with the economic development of the country and its growing competitiveness. Previous studies show that innovative early-stage entrepreneurs are less likely to have a necessity motive to start their business. Women are just as likely as men to identify products or services that they offered as innovative. But, like ambitious ones, innovative early-stage entrepreneurs have a post-secondary degree or higher level of education.

³⁰ Source: <https://dubaifutureaccelerators.com/en/cohorts>

³¹ <https://dubaifutureaccelerators.com/en/press>

- e. The GEM-WEF report draws the conclusion that in the innovation-driven economies, there is generally a higher link between entrepreneurial innovation and ambitious entrepreneurship. It may be the case that ambitious entrepreneurs perceive the need to provide a unique product or service to achieve their growth aspirations, or that the conditions for profiting from growth are more favourable for innovative entrepreneurs in innovation-driven economies. Whatever the reason for this association, the data shows that ambitious early-stage entrepreneurs are more likely to be innovative, lending evidence that these types of entrepreneurs merit attention as both key drivers for job creation and initiating change in the market and competitive environment.
- f. To increase the number of ambitious and innovative early stage entrepreneurs in the UAE, the enhancement of individual characteristics becomes increasingly critical. Developed economies tend to have more sophisticated markets, more competitive spaces, more diverse industry sector profiles, and more affluent populations accommodating and demanding more diverse products offerings. With higher levels of education and higher access to new technologies, entrepreneurs in these economies are inclined to be more innovative to compete successfully. The findings about innovation in the UAE entrepreneurial activity are not satisfactory; they also suggest well-defined areas of improvement. Incentives are required to reduce the high percentage of established firms without any innovative component (94.4% in 2016), and to bring them to use more latest or new technologies (in 2016, 0.0% of established businesses use the latest technologies and only 2.3% use new technologies). Also, policy makers need to focus their efforts on increasing the relatively high rate of early stage entrepreneurs who are offering innovative component (36.8% in 2016). More importantly, since the innovative component offered by early stage entrepreneurs in the UAE is not associated to businesses developing new technologies but rather to no or low technologies (97.6% in 2016) and since 50% of early stage entrepreneurs still use old technologies, incentives for high-tech entrepreneurial ventures and research and development are needed to orient nascent entrepreneurs from sectors with no or low technological intensity towards the desired level of technology. When we look at the profile of people involved in TEA in the UAE, we can observe that only 3.9% of them have graduate experience, while this category represents 29.5% of entrepreneurs in Lebanon. Since the educational level of entrepreneurs is one of the factors that determine the development of innovative and qualified entrepreneurial activities, the focus on improving knowledge creation, absorption and transfer from universities to the community becomes an urgent task to be fully supported by the government. Consequently, science and technology parks related to universities should be established to attract and strengthen linkages with industry and among foreign and domestic knowledge-intensive firms. Universities should develop more programs to support inventors to take their ideas to market. Governmental agencies and programs aimed at intellectual property commercialization should be improved. Finally, because UAE entrepreneurs are the least competitive among the comparator countries with all early stage entrepreneurs and established businesses having no competitors in their targeted markets, clusters and business hubs with centralised resources should be created. This will help reduce the cost of basic services and other professional, commercial and legal services borne by technology start-ups, which might also increase their competitiveness. These collaborative platforms also offer them more protected and safe environment to innovate so they can create new niches with less competition. The new Science and Innovation Park established by UAEU to support the shift of the UAE economy towards a knowledge-economy is an excellent illustration of how different actions could be combined to support start-ups offering an increased technological and scientific content (see case study).
- g. Most of TEA and established entrepreneurial activity in the UAE is taking place in both transformative and consumer-oriented sectors. There is a low proportion of early-stage activity in 'business services' sector (less than 20% since 2009). Knowing the variety of services and their high added value, fostering entrepreneurial activity in business services sector can significantly contribute to the UAE economic growth and diversification. Policy makers are invited to take decisions accordingly.
- h. Connected to training and education, The UAE has huge opportunity to develop R&D transfer condition. Although the country ranks 25th for the Innovation Input Sub-Index in the Global Innovation Index (overall 41 out of 128), it is ranked 75 for the innovation Output Sub-Index and 117 for the efficiency ratio. Several actions based on the helices model can improve innovation in the UAE and more specifically R&D transfer condition.
- i. To improve its ranking for the first sub-index, the UAE government could focus on improving its ranking for human capital and research on one hand and business sophistication on another hand. For "Human Capital and Research", the country ranks 41. This enabler pillar assesses the level and standard of education and research activity in the country, which are considered as the prime determinants of its innovation capacity. For "Business Sophistication", the country ranks 85. Besides the importance of the accumulation of human capital, this enabler pillar assesses how conducive firms are to innovation activity. To foster their productivity, competitiveness, and innovation potential, businesses should hire highly

³² <https://dubaifutureaccelerators.com/en/cohorts>

qualified professionals and technicians but also should provide formal training. The pillar also assesses R&D performed by business enterprise as a percentage of GDP and the percentage of total gross expenditure of R&D that is financed by business enterprise. On another hand, innovation linkages regarding business/ university collaboration on R&D, the prevalence of well-developed and deep clusters, the level of gross R&D expenditure financed by abroad, and the number of deals on joint ventures and strategic alliances are also considered in this pillar. To improve its ranking for the output sub-index, the UAE should increase the innovation outputs resulting from innovative activities within the economy, which are measured through knowledge and technology outputs (the UAE rank is 86) and creative outputs (the UAE rank is 70). For the first pillar in this sub-index, the UAE ranks 102 for knowledge creation, 108 for Patent Application by Origin, 106 for Scientific and Technical Publications and 111 for High-Tech exports. To emphasise how much innovation output the UAE is getting for its inputs, the UAE ranks 117 for the Innovation Efficiency Ratio, which is the ratio of the Output Sub-Index to the Input Sub- Index.

- ii. Implementing the triple (quadruple) helix framework might help transforming universities role and functions to become “entrepreneurial universities”, engaging all components of the helices model (university, industry and government and potentially civil society) in multiplex roles and hybridization dynamics that might generate new institutional and social framework for production, transfer and implementation of knowledge.
- iii. Besides teaching and research role, two other roles universities in the UAE should be increasingly assuming relate to producing students who are able to carry new ideas, skills and entrepreneurial talent, and generating technology. From a traditional source of human resources, UAE universities should build their future strategies to be able to become a source of creating and transferring technology. Intramural research and development activities in the universities labs, which are creators of knowledge, become essential input for innovation. Universities are required then to put in place structures and programs to productize inventions through start-ups creation or other commercialization solutions. The UAEU Science and Innovation Park goals reflect the transformation of UAEU into the university of the future, the first “entrepreneurial” university in the country.
- iv. Industry should finance innovation. Moreover, since economic processes that create and diffuse new knowledge were highlighted to be critical to shaping the growth of nations, communities and individual firms, it has become urgent for UAE companies to develop some academic characteristics through the exchange of knowledge and the training and developing employees internally. These actions will develop opportunities to take advantage of each employee’s innate curiosity and willingness to experiment and to become knowledge worker.
- v. Finally, the UAE Government should continue providing the regulatory framework and the financial support for the definition and implementation of innovation strategies and policies. However, attention should be given to the efficiency of these strategies, policies and government related investment. To avoid programs that lack impact, the UAE Government should target few intended outcomes, rather than a loose collection of measures. According to OECD Directorate for Science, Technology and Innovation report (2014) on “Assessing the Impact of State Interventions in Research – Techniques, Issues and Solutions”, impact assessment should be carried out to understand to what extent and how the policy intervention corrects the problem it was intended to address. It should be comprehensive, proportionate, evidence-based, using robust evaluation methodologies and developing longitudinal datasets, transparent, unbiased, prepared collectively with relevant government services, embedded in the policy cycle, and of a high quality. Specific attention should be given to informing policy makers about the appropriateness of the intervention design, the cost and efficiency of the intervention, its unintended effects and mainly potential economic, social, and environmental ramifications and how to use the experience from this intervention to improve the design of future interventions.

- 15. The entrepreneurship ecosystem in the UAE offers** the required conditions for an entrepreneurial activity to flourish. However, there are still areas to improve. The national experts assessment over time show that since 2009 only governmental programs, cultural and social norms and basic-school entrepreneurial education have improved dramatically; governmental support and policies, R&D transfer, internal market openness and physical services and infrastructure have moderately improved; and the availability of financing for entrepreneurs and post-school entrepreneurial education and training, as well as the commercial and professional infrastructure, internal market dynamics and taxes and bureaucracy are decreasing. We highlight in the following paragraphs the major opportunities to be seized by policy makers to increase the level and quality of entrepreneurial activity.
- a. Commercial, professional and physical infrastructure:** The UAE has overall an excellent infrastructure to support entrepreneurial activity. However, improvement related to this condition could be achieved in increasing the availability of good professional advice and service to entrepreneurs at lower cost. Same observation was made for physical infrastructure. Although, basic utilities and communications for entrepreneurs are well developed and quite easy to access, some experts think they are still not affordable.
- i. The creation of clusters and business hubs with centralised resources helps reducing this cost borne by start-ups, which will help increasing their competitiveness as was mentioned previously.
 - ii. 2017 was declared the “Year of Giving” in the UAE. The purpose is to enhance and spread the humanitarian values across the country, to make a difference in providing free services and contributing to the advancement of society by being kind and generous to the people. Under the umbrella of the UAE National Strategy for the Year of Giving, which constitutes an integrated package of programmes and projects that aim to improve various aspects of humanitarian and charity work in each Emirate in the UAE, policy makers could set a new regulation that enforces pro bono services to entrepreneurs to alleviate the cost they cannot afford today.
- b. Internal market dynamism:** According to experts, new firms have some difficulties to enter the market and cannot afford easily the related cost. They also think there is some blocking by the side of established firms and the anti-trust legislation is perceived as weak and not well enforced. Corrective actions to increase market dynamism and its opening could improve the conditions for entrepreneurial activity to flourish.
- c. Social and cultural norms:** Experts think the national culture supports individual success, self-sufficiency, autonomy, and personal initiative and creativeness. However, there is an individual aversion to risk, which is most likely negatively affecting entrepreneurial propensity in the UAE. Researchers state that observing entrepreneurs in the local and social environment provides opportunities to learn about entrepreneurial tasks and capabilities, thereby reducing uncertainty that potential entrepreneurs face. In the UAE, more than 60% of adult population seem to know someone personally who started a business in the past 2 years. Hence, the fear of failure in the UAE seems not to be associated with the uncertainty inherent to the entrepreneurial experience. Moreover, it is not related to low social approval of entrepreneurship, since a very high proportion of the UAE adult population (75.1%) considers starting a new business a desirable career choice, and those successful at starting a new business have high level of social status and respect (82.3%). We invite researchers to study this phenomenon so as to provide specific policy recommendations on how to reduce this individual risk aversion that most likely is related to specific social norms and aspects of the national culture. However, we believe in the importance of increasingly exposing non-entrepreneurs to role models and to a positive entrepreneurial environment to shape their perceptions in the long run. This could be achieved through increasing the presence of examples and news related to entrepreneurs and innovation on the media and encouraging the involvement of entrepreneurs in teaching this content in educational institutions. We also recommend measures to encourage stronger and more resilient family units as well as an increasing social acceptance of starting small.
- d. Finance areas of improvement:** With the weak exception of informal investment, which is decreasing since 2009 (see above) and government subsidies, which remains relatively not accessible to non-Emirati expat entrepreneurs, most of financing channels are either not available or not enough effective in supporting entrepreneurial activity at all stages. The following corrective actions are proposed:
- i. Help entrepreneurs develop new professionalized perspectives such as bootstrapping.
 - ii. Develop micro-funding models such as crowdfunding to support early stage entrepreneurs.
 - iii. Government entities involved in funding early stage entrepreneurs should set vigorous entrepreneur capability assessment and strict review and screening of their ideas before any funding decision. They are invited to channel seed funding to risky research and development efforts that will lead to prototypes with viable market opportunities. To help early stage entrepreneurs survive the valley of death before professional investors (Angels and Venture Capital) start investing,

seed capital providers should actively assist entrepreneurs with strategic advice and effective training to be able to develop proven business models. This requires designing and implementing higher quality and effective training programs with clear objectives, measurable outcomes and KPIs. Impact assessment strategies aligned with the national agenda need to be implemented to better evaluate the effectiveness of government financing programs for entrepreneurs.

- iv. By supporting the pipeline of investment ready ventures, VCs become less cautious and can play their normal role in start-ups growth or development phases.
- v. More potential VCs can be established. For instance, local HNWI and big investment groups such as family offices could also be incentivized to create VC funds and invest more locally and mainly in promising technology start-ups.
- vi. Public Private Partnership (PPP) models could be used to establish new VCs specialized in funding start-ups in strategic areas of innovation.
- vii. Developing private equity (PE) investments, derived from banks, companies, pension funds, insurance companies, and government institutions, to fund established entrepreneurial activity expansion projects, infrastructure, and development in more mature companies could complete the chain.

e. Government policies and programs areas of improvement: the UAE ranks 3rd for government policies (support and relevance) after Korea and France. It ranks 4th for government policies (taxes and bureaucracy) after Hong Kong, Georgia, Estonia and the Netherlands. Finally, the UAE ranks 6th for government entrepreneurship programs after Austria, Switzerland, Germany, Luxembourg and the Netherlands. Although government policies and programs conditions are among the UAE ecosystem strengths, areas for improvement still exist:

- i. Continue the regulatory reform to make it easier for entrepreneurs to register and operate and to make it less costly to engage in entrepreneurial activity across the Emirates.
- ii. Make information required to start a business in the UAE, which are related to business registration, HR legislation and insurance, easily accessible to potential entrepreneurs.
- iii. Increase entrepreneurs' awareness about government policies and programs. Diverse information channels could be used for the purpose, including specific portals for SMEs, creating one-stop support centers, developing SMS campaigns, etc.
- iv. Create a database of early-stage and established entrepreneurs to be used for awareness campaigns and further support actions. For instance, organizing events for these entrepreneurs at different stages to network will help them share knowledge and experience, benefiting from mentoring and coaching opportunities, gaining inspiration, and practical personal experiences.
- v. Increase the number of incubators and accelerators and incentivize them to be aligned with the national agenda requirements in terms of improving capacity building, nurturing entrepreneurial skills, increasing job creation and technology and innovation outcomes, etc.
- vi. Support the creation of clusters and science parks as described above.

f. Entrepreneurial education and training: the UAE still has a lot to do at this level, which represents a huge opportunity to increase the level and the type of entrepreneurial activity in the future.

- i. Develop a long-term strategy to infuse entrepreneurial contents in the educational system at all levels.
- ii. Provide substantial internships to students to improve their experiential learning from the professional world with the possibility to have a full-year internship and / or to be involved in innovative startups.
- iii. Address the quality and relevance of curricula to bring educational institutions at all levels to improve their capacity to provide the knowledge and skill set a knowledge economy needs. Students need to be introduced to technological advances and exponential technologies, including artificial intelligence (AI), augmented and virtual reality (AR, VR), data science, digital biology and biotech, medicine, nanotech and digital fabrication, networks and computing systems, robotics, and robocars, in early levels to be able to master them in later stages, and to be able to exploit the opportunities they generate. Abu Dhabi Education Council (UAEC), Boeing and Mubadala Development Company established in 2016 the curiosity machine, which is an after-school program, to teach "Science, Technology, Engineering and Math" (STEM) learning through hands-on engineering design challenges. After a pilot in spring, the program is planned to be offered at two public schools in the next academic year and plans are under consideration to expand it to more in the future. Another important initiative is Weyana, which is a Youth Platform launched by Mubadala to engage young Emiratis to explore community events, content related to topics about (STEM), health and wellbeing and potential career development opportunities and experiences that aim to create well-rounded individuals.

- iv. Help the youth develop an expansive mindset, a sense of belonging to a global citizenship movement and a will to transform the world by engaging in solving the biggest challenges of the planet. Exposing students to these challenges will help them develop better understanding of the nature of the problems and to easily spot opportunities in the local market and beyond. With this regard, Emirates Foundation applies programs within a 3-pillar strategy among young social entrepreneurs and Emirati youth. Its portfolio of six capacity building programs addresses the needs of Social inclusion, Community engagement, Leadership and empowerment.
- v. We recommend increasingly embedding universities courses into the ecosystem. For instance, should be encouraged intra and inter universities competitions on one hand and the insertion of the winners into entrepreneurship programs on the other hand so they can transform their ideas into businesses. Through these competitions, students will gain experiential learning about the professional world, entrepreneurial skills, networking opportunities, professional connections and mentoring and coaching services. Private sector should be incentivized to sponsor such competitions, which could be considered as a priority CSR initiative. The private sector role should not be limited to providing the financial support, they should also bring the challenges to solve, help the winning startups test their solutions by offering them a test bed, make available for students and train them to existing technologies and tools they could use to develop their solutions (see case study on how to prompt university students to discover the entrepreneurial potential they have).
- vi. Higher education is not the unique pathway to professional advancement and success; vocational and technical education is not inferior and is much needed to develop an ecosystem for entrepreneurship. The UAE should develop vocational training to irrigate clusters to be established to support regional development linked to the country strategic areas of innovation. For instance, with the presence of the Nibras cluster, the first National Space Science and Technology Center established by UAEU and its Science and Innovation Park, the city of Al Ain could become a regional hub for aerospace industry. Introducing vocational and technical training aimed to preparing skilled technical workforce complements the educational landscape and makes the region more attractive for foreign investment.



CASE STUDY: HOW TO PROMPT UNIVERSITY STUDENTS TO DISCOVER THE ENTREPRENEURIAL POTENTIAL THEY HAVE

Among our recommendations, we highlighted the importance to reform curriculum and to embrace initiatives that bridges university with the whole entrepreneurship ecosystem. Promoting diversity settings, fostering experiential learning, increasing opportunities for students to think out of the box, to embrace failure, to share and to learn from each other, developing growth mind-set, and helping students aspire to be change makers are key to increase the level of entrepreneurial activity among university students.

We present now two recent initiatives aimed to university students to offer them new experiences to discover the entrepreneurial potential they have.

1- THE MINISTRY OF HIGHER EDUCATION LAUNCHES A NEW COURSE ABOUT ENTREPRENEURSHIP AND INNOVATION

To help advance the UAE's national strategy on innovation and accelerate its innovation talent development, the Stanford Center for Professional Development of Stanford University was engaged to develop an Innovation and Entrepreneurship course for the UAE, to be integrated into its general education curriculum for all colleges and universities. This project is a three-year learning journey considered as a large-scale endeavor with the support of the Prime Minister's Office in partnership with the Ministry of Education (formerly the Ministry of Higher Education and Scientific Research) of the UAE.

In Spring 2016, the UAE Ministry of Education began to implement classes in entrepreneurship and innovation as part of an optional curriculum at three federal and 12 private universities, with the objective to make this course compulsory for all students in the UAE universities in their second or third years starting from 2017. To introduce staff to the relevant teaching skills and styles and strengthen their abilities, the Ministry of Education's plans include training academics at public and private universities to teach the new curricula, holding workshops for faculty and organising visits to Silicon Valley and Stanford University, whose experts designed the foundations of the new syllabus.

"Fundamentals in Innovation and Entrepreneurship" is a large-scale endeavour driven by the strong vision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, the Vice President, Prime Minister of the UAE, and ruler of Dubai. This course also benefited from the collaborative spirit and trust between colleagues from the UAE and Stanford University. This course is developed for the UAE, based on decades of practices and experiences of teaching innovation and entrepreneurship at Stanford that has fuelled innovation and high growth in Silicon Valley. The goal of the course is to equip the next generation of leaders in the UAE with an innovative and entrepreneurial mind-set and its related core skills. After completion of this course, students are empowered and skilled to engage with community to create opportunities and impact.



The partners assessed the achievements achieved in the first year as a success, and an experience that needs to be continued and supported. Among the project outcomes:

1. Selected UAE faculty members from a wide variety of disciplines attended the coaching provided by Stanford faculty. The coaching was delivered in multiple ways— face-to-face, virtual, as well as interactive working sessions.
2. 30 UAE faculty members went to Stanford for a week of study and received certification in entrepreneurship and innovation education. They also proposed and presented their ideas on high innovation impact projects to support and scale the innovation talent development. A dissemination symposium was delivered on May 3, 2016. A total of about 150 participants, including Vice Chancellors, Provosts, and CEOs of colleges and universities from the UAE, as well as UAE faculty members and administrators attended the event.
3. As a result, a core group of 30 or more faculty members in 20 colleges and universities in the nation was developed. A trusting, collegial community was established and fostered through in-depth workshops and interactions with these faculty members. A visible transformation can be seen among these faculty members from a state of uncertainty and hesitancy to inspiration and a “can-do” mind-set.
4. The Educators’ Guide was fully developed, considering UAE faculty inputs and other need-finding results, as well as providing both content and pedagogical tools that will serve as a strong foundation for developing faculty and scaling the teaching principles and practices. The guide provides a detailed road map for teaching the course, while also encouraging faculty members to consider integrating the most relevant examples to the UAE education context. It includes a framework for approaching the course content, a content map and learning outcomes guide, a sequence and pacing guide, assessment frameworks, and a collection of resources.
5. The Stanford team also visited 3 institutions at 5 campuses, observed courses and interacted with students, faculty, and administrators, and provided feedback and support. When talking to students about their course experience, the Stanford team brought in prototyping materials and asked students to make an object to reflect their journey of learning during the course. Students reacted to this task enthusiastically. A few general themes emerged from this exercise:
 - a. Students found this course to be different from other courses in terms of how it was taught and the nature of the homework and projects and their evaluation. Students found the course to be more participative, integrating their own experiences and interests with less rote learning.
 - b. Students found this course to be a transformative experience. The tools they were given enabled them to do creative thinking and problem solving, engage in teamwork, and practice innovation.
 - c. Based on the very limited sample of students the team interacted with, female students were more enthusiastic about this course and active within it than their male counterparts.
 - d. Other areas of improvement were discussed with students to be implemented in the future.

Figure 8.3: An HCT Student Created Object Reflecting Their Learning Experience of IE301



Students commented: “Before taking the course, we were freaked out by the word “innovation,” it was overwhelming. Our thinking was black and white. As we were taking the course, we started to get some bright ideas, now we feel empowered and confident we also have great ideas and we can solve problems too! By the end of the course, we are not the same people as entering.”

2- GLOBAL STUDENT ENTREPRENEUR AWARDS (GSEA) IS IN THE UAE NOW

GSEA is the premier global competition for students who own and operate a business while attending college or university. Nominees compete against their peers from around the world in a series of local and/or national competitions in hopes to qualify for GSEA Finals. Founded in 1998 by Saint Louis University, GSEA is now an Entrepreneurs' Organization program.

The Entrepreneurs' Organization (EO) is a global, peer-to-peer network of 12,000+ influential business owners with 160 chapters in 50 countries. Founded in 1987, EO is the catalyst that enables leading entrepreneurs to learn and grow, leading to greater success in business and beyond.

GSEA VISION

Empowering student entrepreneurs to become the world's more influential change makers.

GSEA MISSION

To give student entrepreneurs the opportunity to accelerate their success, challenge the status quo, connect to an instrumental peer group and make the greatest impact possible in their community.

Mr. Ashish Panjabi, Chief Operating Officer at Jacky's Business Solutions LLC, in his capacity as UAE EO GSEA Chair answered our questions about GSEA in the UAE:

Q: How did you come up with the idea to start the UAE chapter?

The EO UAE Chapter was started in 1997 by like-minded individuals who wanted to engage with other entrepreneurs. As cosmopolitan as the UAE is, we tend to be fairly cocooned in that most people largely only have regular interactions or engagements with people within the same industry or community as them. Furthermore, as an entrepreneur, there are many times situations where it is difficult to talk to people about what's on your mind as you are not comfortable talking about it to family, investors, business associates, community members, etc. EO is a safe place where we have mechanisms to help engage in such dialogue without judgement and with confidentiality. The diversity that EO UAE has and the peer-to-peer nature of the Organization has meant that entrepreneurial members benefit from learning from the experiences of this diverse membership that the Chapter has today. The connection that the Chapter has with EO globally has also been a huge benefit whether it is with members who attend international events or members who step up into regional or global positions within EO's Path of Leadership (PoL).



Q: What is your goal in launching GSEA UAE?

As an organization that prides itself on being global and being run by entrepreneurs who have all reached a level of success, we all look for ways to give back, to get further inspired and to learn more. Ingrained in our EO values, we have things like having a "Thirst for Learning" and "Make a Mark" for example, where we look to learn from newer, emerging businesses and help them create a legacy or a platform to grow.

The other main driver was the fact that the UAE or rather the Middle East has never been represented at the Global GSEA Finals ever before. We had fifty-one contestants last year in the Global GSEA Finals in Bangkok and none was from this region. With the UAE being one of the centres of entrepreneurship, it only makes sense to see someone from this region at the Global Finals and hopefully win it!

Q: What are the challenges you faced in launching this initiative?

The biggest challenge was to make many students and institutions understand just how entrepreneurs they had. The conventional wisdom in the UAE seems to be that if you are an entrepreneur, you've registered your business and have a trade license, etc. What many of them forget is that school student selling lemonade in his neighborhood is also an entrepreneur.

Many institutions therefore started off by telling us they may not have too many entrepreneurs on their campus. When quizzed whether they had a DJ, baker, photographer, graphic designer or App developer who does paid freelance work or gigs on their campus, many of them said “yes.” That to me was the sign of an entrepreneur on a campus. However, trying to tell a DJ who does event management and equipment rentals that he is an entrepreneur is still a task as many of them don’t think of themselves in that way. The fact that many operate in the informal economy means that they don’t necessarily have the structures in place and have a fear possibly of calling themselves entrepreneurs.

Q: How do you think this initiative will contribute to the ecosystem? And at which level you see this initiative will add most value?

The vision is that programs like this will spark a realization within many entrepreneurs that they are indeed just that if they hadn’t realized it earlier. There is a lot of scope for growing this competition to where we have qualifier competitions within each Emirate before reaching a National Final. I also see this event as a platform for emerging entrepreneurs to get noticed. There are lots of people wanting to invest, support or connect with emerging businesses. Knowing or watching a business get vetted in front of GSEA judges means there is a degree of credibility that will be attached to such businesses.

Q: How do you think other players / initiatives in the ecosystem could leverage this initiative?

Many banks like to give credit cards to a student when he or she is at University because they like to establish that relationship early enough with them as their credit card of choice. Imagine as a service provider, whether it be a bank, audit firm, consultant, investment advisory, etc. that you were able to connect with emerging businesses and become their provider of choice, it makes for a great way to find new customers who will one day grow. As an entrepreneur, you remember those people who supported you during your early days and helping build those relationships is what this competition could help with.



With the support of Aramex, HBS Club of the GCC, In5, Man’oushe Street, Sheraa (Sharjah Entrepreneurship Centre), shjseen (part of Sharjah Chamber of Commerce), the young vision and UAEU Science and Innovation Park, The first UAE GSEA competition took place in February 2017³⁵ where Rishav Jalan, student of BITS Pilani and co-founder of Wrappup, was crowned. He represented the UAE in the GSEA global finals in Frankfurt in May 2017.

³⁵ <https://www.youtube.com/watch?v=uOBDxyCWaJI&feature=youtu.be>

REFERENCES

- Acs, Z. J. and J. E. Amorós (2008), 'Entrepreneurship and competitive- ness dynamics in Latin America'. *Small Business Economics* 31(3), 305–322.
- Ajayi-Obe, O. and Parker, S.C. (2005). The changing nature of work among self-employed in the 1990s: Evidence in Britain. *Journal of Labor Research*, 26(3), 501-517.
- Álvarez, C., D. Urbano and J.E. Amorós (2014). "GEM research: Achievements and challenges." *Small Business Economics*, 42(3), 445-465.
- Angner, E. (2010). Subjective well-being. *Journal of Socio- Economics*, 39, 361–368.
- Arabnet & Dubai SME (2017), The state of digital investments in MENA: 2013-2016.
- Benz, M. and Frey, B. S. (2004). Being independent raises happiness at work. *Swedish Economic Policy Review*, 11(2), 95–134.
- Blanchflower, D. G. (2004). Self-employment: More may not be better. *National Bureau of Economic Research*.
- Block, J. and Koellinger, P. (2009). I can't get no satisfaction—Necessity entrepreneurship and procedural utility. *Kyklos*, 62(2), 191- 20.
- Bosma, N. (2013). "The Global Entrepreneurship Monitor (GEM) and Its Impact on Entrepreneurship Research." *Foundations and Trends® in Entrepreneurship*, 9(2), 143-248.
- Bosma, N., Z.J. Acs, E. Autio, A. Coduras and J. Levie 2009, GEM executive report 2008, Babson College, Universidad del Desarrollo, and Global Entrepreneurship Research Consortium.
- Bosma, N., K. Jones, E. Autio and J. Levie 2008, GEM executive report 2007, Babson College, London Business School, and Global Entrepreneurship Research Consortium.
- Bradley, D., & Roberts, J. (2004). Self-employment and job satisfaction: Investigating the role of self-efficacy, depression, and seniority. *Journal of Small Business Management*, 42(1), 37–58.
- Drexler, M. and J.E. Amorós (2015). "Guest post: how Chile and Colombia eluded the 'entrepreneur trap'" *Financial Times*, January 8th. On line: <http://blogs.ft.com/beyond-brics/2015/01/08/guest-post-how-chile-and-colombia-eluded-the-entrepreneur-trap/>
- Drexler, M. and Herrington, M. (2015). "Leveraging Entrepreneurial Ambition and Innovation: A Global Perspective on Entrepreneurship, Competitiveness and Development", *World Economic Forum and GEM special report*.
- Eisenhauer, J. (1995). The entrepreneurial decision: Economic theory and empirical evidence. *Entrepreneurship Theory and Practice*, 19(4), 67–79.
- GEM (2013), Global report
- GEM (2016), Global report
- Hyytinen, Ari & Olli-Pekka Ruuskanen (2007). Time Use of the Self-Employed, *Kyklos*. 60(1): 105–122.
- Kirzner, I. M. (1973) *Competition and Entrepreneurship*. Chicago: University of Chicago Press.
- Lange, T. (2012). Job satisfaction and self-employment: Autonomy or personality. *Small Business Economics*, 38(2), 165–177.
- Levesque, D., Pastor, D., & Douglas, K. (2002). Development and validation of a stages of change measure for men in batterer treatment. *Cognitive Therapy and Research*, 24(2), 175-199.
- Levie, J. and E. Autio (2008). "A theoretical grounding and test of the GEM model." *Small Business Economics*, 31(3), 235-263.
- Mlachila, M., Tapsoba, R., Tapsoba, S. J. A. (2014), A Quality of Growth Index for Developing Countries: A Proposal, *IMF Working Paper/14/172*.
- Moskowitz, T. J. and Vissing-Jorgensen, A. (2002). The Returns to Entrepreneurial Investment: A Private Equity Premium Puzzle? *American Economic Review*, 92, 745-79.
- OECD (2013), *OECD Guidelines on Measuring Subjective Well-being*, OECD Publishing. <http://dx.doi.org/10.1787/9789264191655-en>
- OECD Directorate for Science, Technology and Innovation (2014), "Assessing the Impact of State Interventions in Research – Techniques, Issues and Solutions", unpublished manuscript.

- OECD (2016), Entrepreneurship, SMEs and local development in Abu Dhabi: boosting the entrepreneurial ecosystem.
- Parasuraman, S. & Simmers, c. (2001). Type of Employment, Work-Family Conflict and Well-Being: A Comparative Study, *Journal of Occupational Behavior*, 22: 551–568.
- Reynolds, Paul, Niels Bosma, Erko Autio, Steve Hunt, Natalie de Bono, Isabel Servais, Paloma.
- Reynolds, P. D., Hay, M. and Camp, S. M. (1999). *Global Entrepreneurship Monitor 1999 Executive Report*. Kauffman Center for Entrepreneurial Leadership at the Ewing Kaufman Foundation.
- Reynolds, P., N. Bosma, E. Autio, S. Hunt, N. D. Bono, I. Servais, P. Lopez-Garcia, and N. Chin, 2005, *Global Entrepreneurship Monitor: Data collection design and implementation 1998-2003*. *Small Business Economics* 24 (2005): 205-231.
- Helliwell, J. F., Layard, R. and Sachs, J. (Eds.). (2013). *World Happiness Report*. New York: UN Sustainable Development Solutions Network.
- Stiglitz, J.E., Sen, A., and Fitoussi, J.P. (2009). Report by the Commission on the Measurement of Economic Performance and Social Progress. Available at <http://www.stiglitz-sen-fitoussi.fr/en/index.htm>.
- Stinchcombe, A. (1965) *Social structures and organizations*. Handbook of organizations. Rand McNally, Chicago.
- Van Stel, A., M. Carree, and R. Thurik (2005), 'The effect of entrepreneurial activity on national economic growth'. *Small Business Economics* 24(3), 311–321.
- Varela, R., (2014) *InnovaciónGEM Empresarial: Arte y Ciencia en la Creacion de Empresas*. Pearson Educación, Colombia
- Wennekers, S., van Stel, A., Carree, M., & Thurik, R. (2010). The relationship between entrepreneurship and economic development: is it U-shaped? *Foundations and Trends in Entrepreneurship*, 6(3), 167–237.
- World Bank (2000). *The Quality of Growth*. New York: Oxford University Press

GLOBAL ENTREPRENEURSHIP
MONITOR
UNITED ARAB EMIRATES
2016/17 ANNUAL REPORT

