Abu Dhabi Competitiveness Report
Improving the Competitiveness of the Emirate of Abu Dhabi
Competitiveness in Abu Dhabi is about creating the sustainable environment that enables the Emirate’s enterprises and its people to realize their full productive potential.
As the United Arab Emirates enters its 42nd year of existence, it is a timely opportunity to reflect on our country’s extraordinary journey since 1971. Our nation was blessed with a wise and compassionate founding father – HH Sheikh Zayed Bin Sultan Al Nahyan - who laid the groundwork for what the UAE has become today: one of the world’s leading economies and a bastion of peace, stability and security.

Our visionary President, HH Sheikh Khalifa Bin Zayed Al Nahyan, is continuing to build on this solid foundation to propel the UAE forward as one of the world’s most competitive economies. Abu Dhabi Emirate – the largest Emirate in the federation – is particularly well-positioned to be the catalyst for this effort. The Abu Dhabi Vision 2030 – developed under the sage guidance of HH Sheikh Mohammed Bin Zayed Al Nahyan, the Crown Prince of Abu Dhabi, Deputy Supreme Commander of the Armed Forces and Chairman of the Executive Council - is setting the stage for the transformation of Abu Dhabi into a diversified, highly-innovative economy that will generate significant employment opportunities and long-term growth.

As the lead entity responsible for delivering the economic agenda of Abu Dhabi, the Department of Economic Development has made balanced regional development a top priority. Toward that end, there is a strong interest in applying an evidence-based approach to pinpoint – at a regional level – the principal competitiveness-related strengths, challenges and opportunities in Abu Dhabi City and the Eastern and Western Regions. These findings will then be used to design and implement a policy agenda to generate sustained economic growth in all regions of the Emirate.

The inaugural Abu Dhabi Competitiveness Report, prepared by the Competitiveness Office of Abu Dhabi (COAD), is the culmination of several months of dedicated effort by a team of DED staff members and key stakeholders. The report is informed by a rigorous regional competitiveness index – the first of its kind in the GCC region - that will serve as the principal tool to measure the Emirate’s progress in achieving the goal outlined in Abu Dhabi Economic Vision 2030 “to build a sustainable economy that ensures a balanced social and regional economic development approach that brings benefits to all.”

The publication of the Abu Dhabi Competitiveness Report will accelerate efforts to create a competitive knowledge-based economy that benefits all of the citizens of Abu Dhabi Emirate and its three regions. We look forward to working with our stakeholders, both public and private as well as Emirate-level and federal, to ensure that the recommendations in this report become reality.

This report benefitted from the support and contribution of numerous stakeholders. Special thanks go to the following individuals and organizations:

- Abu Dhabi Department of Economic Development
- Abu Dhabi Chamber of Commerce and Industry
- Abu Dhabi Council for Economic Development
- Abu Dhabi Technology Development Committee
- Abu Dhabi Tourism Authority
- Al Ain Municipality
- Khalifa Fund for Enterprise Development
- National Bureau of Statistics
- Statistics Center Abu Dhabi
- The Western Region Development Council
- Dr. Robert Huggins, Professor at Cardiff University, UK and co-founder of the World Knowledge Competitiveness Index
- Dr. Yusuf Mansur, former CEO of the Jordan Agency for Economic Development

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Foreword

Chairman, Abu Dhabi Department of Economic Development
His Excellency Nasser Ahmed Alsowaidi

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Internationally, “A nation’s competitiveness is the degree to which a country can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long term.”

In the context of Abu Dhabi, improving competitiveness is about creating the sustainable environment that enables the Emirate’s enterprises and its people to realize their full productive potential. This entails providing the conditions for the Emirate’s workforce, businesses, sectors and regions to excel in both local and global markets. The leadership of Abu Dhabi has prioritized competitiveness as one of the key objectives to building a sustainable economy for the future, as defined in the Abu Dhabi Economic Vision 2030.

With this goal in mind, the Competitiveness Office of Abu Dhabi was launched in 2011 under the Abu Dhabi Department of Economic Development (ADDED), the lead entity responsible for delivering the economic development strategy outlined in the Abu Dhabi Economic Vision 2030.

Abu Dhabi Economic Vision

“Abu Dhabi as a sustainable, diversified, high-value added economy that encourages enterprises and entrepreneurship and well integrated in the global economy leading to better opportunities for all”

The Competitiveness Office of Abu Dhabi (COAD) Vision and Mission

Vision: Work in collaboration with stakeholders to implement the best thinking in the field of Competitiveness to support the people and enterprises of Abu Dhabi in reaching their full productive potential.

Mission: Enhance the global Competitiveness of Abu Dhabi, its enterprises, and private businesses by advocating policies, leading initiatives, and creating a shared understanding and awareness among its stakeholders.

1 The Organisation for Economic Co-operation and Development
The Emirate of Abu Dhabi has witnessed transformative growth over the past forty years, driven primarily by the ambitious economic agenda of its leadership. The government of Abu Dhabi has used the region’s natural resources to drive forward social and economic developments, changing the economic landscape of the Emirate and its position internationally. By positioning itself as a hub for businesses, visitors and investors, Abu Dhabi has opened up its economy to the world, aiming to attract premier talent from abroad while growing the indigenous capacity of its population. It is in this context that Abu Dhabi has increased its competitive outlook and positioned itself on a track for long-term sustainable growth.

Improving the competitiveness and productivity of the Emirate is one of the key objectives of the government, as articulated in the Abu Dhabi Economic Vision 2030. It is under this mandate that the Competitiveness Office of Abu Dhabi (COAD) is carrying out its mission to “enhance the global competitiveness of Abu Dhabi, its enterprises, and private businesses by developing policies, leading initiatives, and creating a shared understanding and awareness among its stakeholders.” The first Competitiveness Report of Abu Dhabi represents an effort to measure the performance of Abu Dhabi and its three main regions, Abu Dhabi City, Al Ain, and Al Gharbia (The Western Region) against other international comparative regions.

One unique feature of the Competitiveness Report is the focus on Abu Dhabi’s sub-regions as key sources of insight to the collective performance of the Emirate. This report answers the question “why regional competitiveness?” and provides the rationale for a more granular analysis of economic data beyond the national level. Understanding the drivers of competitiveness from a regional and even sub-regional perspective is critical as it allows governments, businesses, and individuals to target investments and provide specific solutions for improvement.

To measure the performance of Abu Dhabi and its sub-regions, COAD developed a regional competitiveness model that measures competitiveness of the Emirate against select benchmark regions. Each benchmark was chosen for its relevance to Abu Dhabi, either due to its location and development parallels, its success transitioning from a resource-based to a knowledge-based economy, or as a leader in global competitiveness. Each benchmark was measured using almost 50 economic indicators, divided into Inputs, Outputs, and Outcomes. The model also takes into consideration Enablers, which are the supporting conditions and qualitative factors that impact competitiveness.

The Competitiveness Report serves five main functions:

- Measure the competitiveness of Abu Dhabi and its three main regions, Abu Dhabi City, Al Ain, and Al Gharbia (The Western Region)
- Benchmark Abu Dhabi and its sub-regions against other international comparative regions
- Highlight the key challenges and successes of the Emirate from a competitiveness perspective
- Offer recommendations aimed at addressing these challenges and improving the competitive landscape going forward
- Align Abu Dhabi government initiatives toward the Abu Dhabi competitiveness agenda

One unique feature of the Competitiveness Report is the focus on Abu Dhabi’s sub-regions as key sources of insight to the collective performance of the Emirate. The report analyzes sector-specific data. Target sector data provides relevant information about which industries are contributing the most to economic output, job creation, wages, worker productivity and foreign investment. Providing sector-level analysis ultimately allows for a more disaggregated view of the economy and its associated gaps and potential growth areas.

The Report takes an in-depth look at the results of the model and the current competitive landscape of the Emirate. The data findings are grouped into the most pertinent areas for improvement, and presented in the Competitiveness Assessment Framework. This framework structures Abu Dhabi’s specific challenges and suggested recommendations under the three drivers of competitiveness.

The first driver is Human Capital, which evaluates the education, skill level, characteristics and overall dynamism of Abu Dhabi’s workforce. While there have been numerous educational reforms and training initiatives put in place in recent years, key challenges remain around skill building, higher education and female labor force participation in Al Gharbia.

The second driver is Businesses, which examines the entire value chain of doing business, beginning with start-ups, then growth, financing, and the sale of goods and services. The three areas examined for business competitiveness in Abu Dhabi are entrepreneurship, firm growth, and innovation. While numerous initiatives have been established by the government to increase the financing and support services available to businesses, challenges still remain for small enterprises seeking to enter and compete in the marketplace.

The third, and final driver, is the Economic Structure of Abu Dhabi and its regions. This driver provides a longer-term outlook on competitiveness, measuring the economy’s sustainability and its capacity to generate wealth and maintain or increase standards of living. This driver provides an aggregate view of the economic activity of a region, taking into consideration the diversification of sectors as well as the geographic location of investment and business activity. The main challenges discussed in this section are diversification away from oil and gas and into high value-added or knowledge sectors, as well as reducing the regional disparities between Al Gharbia, Al Ain and Abu Dhabi’s capital city. Improving the incentives for private sector investment is an essential element in improving Abu Dhabi’s economic structure.
Finally, specific recommendations are provided for each challenge, as well as case studies on how benchmark regions improved competitiveness in these relevant areas. In many instances, Abu Dhabi has set global examples which can be considered competitiveness success stories. These include the Western Region Development Council’s work to attract investment into Al Gharbia; industrial improvements from the development of Free Zones; and the Abu Dhabi Education Council’s New School Model to improve the quality of education across the Emirate. These success stories are interspersed throughout the report to highlight some of the Emirate’s competitiveness achievements to date.

Going forward, the objective is for this report to be published biennially to track Abu Dhabi’s ongoing improvements and progress towards enhancing competitiveness. This will include updates on new public and private sector initiatives as well as the outcome of the specific challenges and recommendations currently identified. As more data becomes available for Abu Dhabi and its sub-regions, the report can provide additional disaggregated competitiveness intelligence and analysis to better serve the needs of COAD’s stakeholders. This first report paves the way for an informed discussion about regional competitiveness in Abu Dhabi, with the hopes that these efforts will lead to an improved environment for the people, businesses, and regions of the Emirate.

The past five years have ushered in tremendous change for Abu Dhabi, as the Emirate has emerged from the global financial crisis with robust growth figures and sweeping changes to its economic landscape. Much of this change has been driven in large by the Emirate’s public sector, which has taken on a number of reforms and committed significant investment capital into its infrastructure, institutions and local economy. In 2008 the Emirate released the Abu Dhabi Economic Vision 2030, which provides a detailed strategic plan to position the region toward long-term sustainable growth. The government has used the Vision as the guiding framework to increase Abu Dhabi’s competitiveness on both a local and global scale.

Much of the initial investment by the public sector and closely allied development arms such as Mubadala has been in revamping the physical landscape and infrastructure of the Emirate. This includes the development of entire business and residential clusters, hospitals, roads, and what will become the one of world’s largest seaports and petrochemical manufacturing plants. These recent large-scale infrastructure investments are intended to lay the groundwork for the Emirate’s transition away from its dependence on oil production and towards a knowledge-based economy. With public sector driven investments in cutting-edge physical capital, the Emirate’s leadership envisions the continued growth of new and adjacent industries.

The 2030 Vision has also sparked the increase of public sector offerings for businesses. Government entities such as the Khalifa Fund for Enterprise Development, a two billion dirham entity aimed at bolstering small businesses, and the Department of Economic Development are driving the growth of private sector enterprises throughout the region by improving the business environment. Economic zones with favorable regulatory systems such as KIZAD and Masdar City have sprung up throughout the Emirate to drive regional and foreign investment, mostly in manufacturing and industrial sectors. The focus on industrial zones, combined with an already advantageous tax regime, is testament to the government’s efforts at opening up the Emirate as a hub for international trade and business.

While early investments were characterized by large infrastructure projects, the government of Abu Dhabi is now trying to ensure that its citizens have the opportunities to succeed in the rapidly changing economy. Efforts to ‘Emiratize’ sectors, or increase the number of National citizens in the workforce have been taken up by the public sector, most notably the Abu Dhabi Tawteen Council. Increasing Emiratization requires focused programs and investments in education, skill development and training. Training its workforce for high skilled-jobs, and ensuring that the types of knowledge-based sectors and industries exist for the local workforce is the biggest challenge the Emirate currently faces.

As most of the economic activity is driven by the public sector, this is also the career of choice for most Emiratis (at least six out of ten Nationals in the workforce). While early investments were characterized by large infrastructure projects, the government of Abu Dhabi is now trying to ensure that its citizens have the opportunities to succeed in the rapidly changing economy. Efforts to ‘Emiratize’ sectors, or increase the number of National citizens in the workforce have been taken up by the public sector, most notably the Abu Dhabi Tawteen Council. Increasing Emiratization requires focused programs and investments in education, skill development and training. Training its workforce for high skilled-jobs, and ensuring that the types of knowledge-based sectors and industries exist for the local workforce is the biggest challenge the Emirate currently faces. As most of the economic activity is driven by the public sector, this is also the career of choice for most Emiratis (at least six out of ten Nationals in the workforce). Building a robust private sector and providing ample opportunities for citizens to excel in private industries is one of the primary objectives for Abu Dhabi.

Strong physical development and investment have impacted the competitiveness of the Emirate by attracting high levels of trade, commerce, business activity and an inflow of expatriate workers into the region. Improving competitiveness for Abu Dhabi’s next stage will entail further development of businesses and labor force, so that the Emirate is an attractive place to do business going forward.
Why regional competitiveness? While most competitiveness indices provide useful insight into the economic performance of a country, granular data at the regional level is necessary to drive targeted policy and program initiatives. Evaluating Abu Dhabi not only at the regional level, but also looking into the key challenges and successes at the sub-regional level will allow for more tailored solutions for the people and businesses in each part of the Emirate.

Regional competitiveness is generally defined as the capacity of a sub-national economy to attract and maintain firms with stable or rising market shares in an activity, while maintaining stable or increasing standards of living for those who participate in it. This definition implies a number of guiding principles in terms of determining regional competitiveness:

- Regional competitiveness should not only lead to increasing market share in a particular industry, but it should also raise or at least maintain the standard of living in that region, since increasing the well-being of the population should be the ultimate goal of all competitive activity.
- Regional competitiveness is determined by the presence of conditions that enable firms to compete and generate value.
- Although a region’s competitiveness is linked to its economic performance, measurement must also incorporate the “assets” of the local business environment.
- Regional competitiveness occurs only when sustainable growth is achieved at wages that enhance overall standards of living.1
- A key factor in achieving such growth is the presence of innovative firms that ultimately generate new jobs.
- Competitiveness is likely to vary across geographic space, with regions developing at different rates depending on their drivers of growth.

Regions that compete solely on the basis of low wages, low-skilled labor, and low taxes alone will not be positioned for long-term growth as they will be at a distinct competitive disadvantage compared to regions that compete on the basis of higher skills and higher wages. Human capital, innovative capacity and the quality of physical infrastructure all impact the competitiveness of a sector. These assets in turn help to attract innovative and creative people which give a region its competitive advantage. In other words, competitiveness is increasingly concerned with creativity, knowledge, and environmental conditions, rather than being based purely on accumulated wealth.

Measuring competitiveness at a regional level provides a better mechanism for governments to target programs and initiatives, improving social welfare and economic outcomes where the greatest gaps exist. There is an emerging consensus internationally that regions constitute the new focus of foreign direct investment attraction strategies, moreover, concentration of R&D and knowledge transfer at a regional level facilitates the development of industrial and service clusters that can have a transformative impact on a country’s economy. Illustrative examples include the high tech clusters in Silicon Valley, California and Route 57 in Boston. Certain regions in a country have specific attributes that will make them more likely destinations for investment. Some regions may be more resource rich than others; other regions may include large urban centers versus more rural, agrarian areas.

By focusing on competitiveness at a regional level, governments can better design and implement programs that can reduce regional disparities.2 They can also develop initiatives to encourage foreign and domestic investment and entrepreneurship in regions that may be competitive in certain sectors and promote industry linkages and cluster development where they are most feasible.

Benchmarks – Overview and Rationale

In order to better assess Abu Dhabi’s competitive positioning on an international scale, select benchmarks were compared across numerous competitiveness indicators. These benchmarks provide useful insight into Abu Dhabi’s standing as they have distinct characteristics that are relevant to Abu Dhabi’s current economic profile or they are well-aligned with its medium-to-long term strategy for improving competitiveness. Alberta, Canada, Norway and Singapore were used as benchmarks in this report.

The main criteria considered were as follows:

- Petroleum abundant
- Extensive downstream industry development
- Diversified, knowledge-based economy
- High standards of living
- Global competitiveness leader
- High percentage of foreign labor
- High levels of government investment and wealth per capita
- Successful in attracting high levels of foreign investment and joint ventures
- Skilled human capital base

The Norwegian economy is one of the most competitive and prosperous economies in the world and its citizens enjoy a high standard of living. Like Abu Dhabi, Norway is a resource abundant country with the largest oil and gas reserves in Europe. These energy resources have played a critical role in accelerating Norway’s economic growth. However, Norway has largely diversified away from oil and gas into the services sector with a focus on healthcare, social and financial services. Currently, the oil and gas sector contributes approximately 20% to the country’s GDP.5 Furthermore, the government has played an active role in creating an enabling environment to enhance competitiveness and generate sustainable economic growth.

Although Singapore has limited natural resources, it has retained the top rankings in numerous international competitiveness indices due to a highly skilled and productive labor force, a business-friendly environment, and the presence of several high-technology industries. It is one of the world’s most favorable business environments due to a consistent and transparent regulatory framework, streamlined business processes, and low personal and corporate tax rates. Similar to Abu Dhabi, Singapore has relied on an expatriate labor force to meet the demands of its growing economy.

Singapore’s employment pass scheme has allowed high caliber foreign workers to obtain jobs and long-term residency in the country. Due to its limited natural resources, Singapore focused on developing its knowledge-based and high technology sectors early on by drawing on a highly skilled pool of foreign scientists and workers. During the initial period following independence, the government assumed a lead role in developing and driving an industrial strategy that enabled the city state to become highly competitive. Singapore applies a hybrid approach, using both interventionist and free market strategies to develop its economy.

Alberta, a Canadian province, is another benchmark for Abu Dhabi. It ranked second after Norway on the Index of Economic Well-being in 2010. Like Abu Dhabi, it is an oil-rich region containing the world’s third largest reserves of oil sands.6 For the most part, growth in the province has been driven by exploitation of the oil and gas reserves; however, Alberta has diversified into the financial, business services and manufacturing sectors. Currently, the oil and gas sector contributes approximately 27% to GDP.7 As Alberta continues to exploit its energy resources, it is doing so in an environmentally responsible manner by setting emission reduction targets for industries and regularly monitoring air quality throughout the year.8 Alberta has developed a business-friendly reputation due to its lower than average tax rates and higher than average standard of living.

Comparisons of Abu Dhabi’s competitiveness with the aforementioned benchmarks will highlight the Emirate’s comparative strengths as well as the opportunities for improvement.

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2 Paul Krugman (2003), a renowned skeptic of the competitiveness concept, has in more recent years suggested that the competitiveness of a region is based on its ability to provide sufficiently attractive wages and/or employment prospects and a return on capital.

3 Huggins, Robert. A Regional Perspective on Competitiveness. Presentation to Competitiveness Office of Abu Dhabi, 6 November 2012.

4 Statistics Norway, 2011


6 Statistics Canada, 2011

THE COMPETITIVENESS ASSESSMENT FRAMEWORK FOR ABU DHABI AND ITS SUB-REGIONS

Improving the overall economic competitiveness of Abu Dhabi requires a comprehensive assessment of where the Emirate currently stands, and how it is driving towards the strategy as set out in the Abu Dhabi Economic Vision 2030. Because competitiveness is an overarching theme, which touches on all aspects of an economy from the macro to the micro level, it is useful to establish a framework for assessing those challenges which remain the biggest priorities for the region. It is through a competitiveness framework that policymakers can effectively identify and evaluate the gaps in competitiveness, and target recommendations and the most crucial points for investment. This framework is unique to Abu Dhabi in that the challenges represent those areas where the Emirate falls behind select international benchmarks, providing the rational for further investigation into how policymakers can improve the conditions for bolstered economic activity. The accompanying recommendations are also specific to the Emirate, as they take into consideration the numerous ongoing and planned initiatives for the region by the public sector, and provide insight into those areas which require further consideration.

The Regional Competitiveness Index provides a useful starting point for measuring the overall landscape of Abu Dhabi, its sub-regions and its sectors using nearly fifty economic indicators measuring inputs, outputs and outcomes of competitiveness. Using the findings from the RCI, the Competitiveness Assessment Framework was developed by clustering the greatest challenges into three groups, which represent the main drivers of competitiveness. Each of these drivers evaluates competitiveness performance at a different level, starting with the individual or worker level, followed by the firm level and then the aggregate economic profile.

The first driver, Human Capital, measures the capacity of the labor force, and its composition in terms of skill, education, labor productivity, and levels of participation by women, youths and Nationals. This driver is based on the premise that as Abu Dhabi seeks to transition to a knowledge-based economy, its stock of skilled human capital should act as the main engine for growth. The second driver is Businesses, which takes into account competitiveness by the firms in the Emirate. This driver is measured by business start-up rates, firm-level investment and growth, and business innovation. Because businesses are the conduit for economic performance, evaluating Abu Dhabi’s ability to start, grow, and sustain high value-added businesses is essential for improving competitiveness. Finally, the third driver of competitiveness is Economic Structure, which takes into consideration the economic disparities between Abu Dhabi’s sub-regions, as well as diversification of the economy. This driver is built on the notion that a region with most of its economic activity concentrated in one city and one sector cannot remain competitive in the long run. Therefore, recommendations in Economic Structure are solely focused on driving investment into the Eastern and Western regions of the Emirate, and furthermore into those strategic sectors prioritized in the Economic Vision 2030.
The first element of the competitiveness framework is human capital, which is characterized by the education, skill level, characteristics and overall dynamism of Abu Dhabi’s workforce. Not only does human capital reflect the actual labor force, but the potential or prospect stock of employees and entrepreneurs, taking into account the incentive structure that determines total labor force participation. In terms of human capital, the largest differentiator between resource-based and knowledge-based economies is that the former depends primarily on its natural resources to fuel development, while a knowledge economy depends on its most competitive asset—its people—to drive growth and innovation. The human capital of an economy is its greatest strength as it defines the potential for higher value-added goods and services and the capitalization of new ideas. The core tools to transition to a knowledge-based economy are education, skills development, and institutions focused on harnessing knowledge transfer. Inclusivity and equality of opportunity are also important measures of human capital potential, as a competitive economy should leverage talent from as many sources as possible, and not just the dominant classes of society.

The GCC countries have attracted a wealth of skilled and unskilled labor into their economies, largely as a result of the ambitious pace of physical infrastructure spending. Abu Dhabi’s data shows that the labor force is still largely driven by foreign expatriate workers, concentrated in the petroleum and construction-related industries. A stark set of challenges have arisen, centered around providing adequate preparation and opportunities for local citizens, women, and youths to transition into the private sector. To address these challenges, the Abu Dhabi government has set ambitious targets to cultivate the opportunities available for its citizens, unveiling numerous educational and skill-building plans to improve competitiveness.

Skill Development

The central measure of a competitive economy’s human capital is the skill-level of its workforce. There is no quick solution for developing and attracting high-skilled workers, entrepreneurs, and innovators, and different competitive economies have pursued unique ways of increasing the skill levels of their workforce. Generally speaking, many competitive economies such as Singapore take a two-pronged approach to increasing the skill capacity of their economy. The first, and more immediate approach, is to provide numerous incentives to attract experienced professionals from abroad to join the domestic labor force. By providing financial incentives to private companies, ensuring a multitude of job opportunities for expatriates, setting up a favorable tax regime, and providing numerous support services for high skilled foreign workers, governments have been able to drive forth ambitious development goals. The GCC has relied heavily in the past on this method, starting in the oil and gas industry in the seventies and then more recently in a host of other industries such as finance, insurance and other professional services.

This top down approach has its merits, mainly in that clustering high-skilled professionals has reverberations throughout other aspects of the economy. More importantly, ensuring a steady inflow of high-skilled workers allows for human capital development to keep pace with the rapid pace of physical infrastructure spending. Abu Dhabi has attracted numerous foreign workers into its economy, but the majority of them have largely been in low-skilled sectors such as construction or low-value-added sectors. According to the Statistics Centre of Abu Dhabi (SCAD), the labor force in Abu Dhabi was estimated to be over 1.4 million in 2011, out of which 130,000 or 9.1% are UAE nationals and the rest, more than 1.3 million workers are non-nationals. While an influx of foreign workers benefits an industrializing economy through the availability of affordable imported labor, the focus now must shift to attracting high skilled professionals who are capable of transitioning Abu Dhabi into a knowledge economy.

Currently, Abu Dhabi falls behind other resource rich economies in the ratio of high-skilled to low-skilled labor, which is a result of rapid and continuous physical development over the past four decades. Labor is largely in infrastructure related industries, as the Emirate modernizes its transportation and urban landscape. The number of managers per 1,000 employees provides some indication of the concentration of knowledge workers in an economy. Managers, professionals and high-end technical workers are a vital part of the knowledge production process. There is increasing recognition of the role played by these workers as a source of innovation and whose responsibility it is to stimulate investment and growth. These workers include the ‘creative class’ of employees whose value is specifically their intelligence. Managers are usually the employees that find efficient ways of working with new technology, and are a vital stimulus in the diffusion of such technologies. Their importance is recognized by the fact these workers not only provide the highest value-added to an economy but also receive the highest level of financial remuneration.

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Professor Robert Huggins, World Knowledge Competitiveness Index

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The Competitiveness Assessment Framework for Abu Dhabi and its Sub-Regions — Human Capital

**The Singapore Workforce Skills Qualifications (WSQ) is a national credentialing system. It trains, develops, assesses and recognizes individuals for the key competencies that companies look for in potential employees.**

**Objectives of WSQ:**

- Supports the economic development of Singapore
- Ensures that workers are equipped with transferrable skills to enhance labor market flexibility
- Enhances productivity of workers

**Key features of WSQ:**

- An occupational and competency-based system designed to build industry-specific skills
- Assessment and certification are based on ability to demonstrate the industry’s required skills
- Accessible to all workers and professionals as WSQ’s entry criteria include skills and knowledge and not formal qualifications

**Key benefits of WSQ:**

- Career path planning and assistance for entry into a new industry
- Skills upgrading and career advancement through clear progression pathways
- Improved performance management systems and training programs

**Sources:** Ministry of Manpower Singapore; Singapore Workforce Development Agency; International Seminar on “National Qualification Framework (NQF): Policies and Strategies”, 2011

A knowledge economy will require investment into attracting highly skilled minds to the region. As is mentioned in the following section on Businesses, providing visas, seed capital, and support services for entrepreneurs are all effective ways of attracting fresh talent and skills into the region.

Ultimately, the goal of a competitive economy is not to solely rely on importing skill into the region, but rather to develop the capacity of the local labor force. The second and long-term approach to improving human capital is to ensure that National citizens have the support and resources available to excel and become active participants in their economy. As identified in the Economic Vision 2030, cultivating the skills and knowledge-base of Emiratis is one of the most urgent priorities of Abu Dhabi: “Human capital will be enhanced through the improvement of education, training, and other methods to improve both the employability of Nationals and the productivity and competitiveness of the workforce in general.”

Improving employability also means preparing and incentivizing local citizens to actively participate in the private sector. Currently, the private sector accounts for nearly 4% of total employment of Emirati workforce in Abu Dhabi, according the Abu Dhabi Tawteen Council (ADTC).11 Of the local citizens who do choose a career in the private sector, few are in high-skilled professional services and key knowledge industries, as most local businesses are in wholesale retail and trade. Around 84% of Emirati-owned businesses in Abu Dhabi are in the trade sector, whereas professional services only account for 3.1%.12

At a sub-regional level, Al Gharbia faces the biggest challenges in providing local citizens with better opportunities for specialized and high-level skill development. The Western Region Development Council has begun to address this by partnering with universities to provide education and career fairs, and the Abu Dhabi Vocational and Educational Training Institute (ADVET) has invested in skill-building for Al Gharbia residents by providing practical training courses and workshops based on the German Vocational Education System. These initiatives are commendable, and necessary to grow the human capital skill base in Al Gharbia. Increased investment in specific skills training for target industries should remain a key priority going forward.

Attracting high-skilled Emirati’s to work in the private sector in Al Gharbia has been a challenge for the region, with the petroleum industry being an exception. Efforts to increase local participation in the private sector in Al Gharbia are mainly driven by the WRDC in collaboration with different governmental agencies. The WRDC signed an MoU with the Abu Dhabi Chamber of Commerce and Industry (ADCCI) aiming to attract the private sector to the region as well as “involving and training the local community and ensuring that they have the capability to play an effective role in the process”13. There are ongoing efforts to provide job opportunities to talented locals in Al Gharbia, of note are the Emiratization programs by the Western Region Municipality and Al Gharbia Hospitals. While public sector positions can improve the employment outlook for the region, pairing high-skilled private sector training programs with internships and job opportunities in Al Gharbia will have the greatest effect on the region’s human capital competitiveness.

**Education**

While Abu Dhabi fares well on basic measures of educational attainment, such as its high literacy rate (92%), or enrollment rates (Secondary education enrollment rates are 88%),14 one of the biggest areas for improvement is in higher education, where the Emirate needs to focus on growing the number of highly qualified university graduates. Because a highly educated population is essential for any economy looking to diversify into value-added and knowledge industries, improving the quality and offerings of universities in the region should be a key priority going forward. Recent partnerships with esteemed international universities such as Paris-Sorbonne University, INSEAD and New York University bode well for the educational outlook of the Emirate.

Doctoral programs, which are closely linked with a region’s knowledge output (such as patent registry, published journal articles, and research and development), are still relatively new to the GCC and are thus quite limited in their offerings. Currently three universities offer PhD programs in Abu Dhabi and two more universities are in the planning process to introduce a PhD program. As expanded upon later, establishing more formal research and development labs and advanced degree programs are integral steps to increasing levels of innovation for the Emirate.

At a regional level, Al Ain leads the Emirate in educational achievement due to the presence of United Arab Emirates University, which is one of the largest and most prestigious universities of the region. Its presence has allowed for a higher concentration of jobs in knowledge services, and has succeeded in attracting larger numbers of women into the workforce. The Emirate has struggled to attract university graduates, with just under 10% of Nationals holding university degrees.15 This is particularly notable in the Western Region, which lacks the presence of higher educational institutes. Without a major technical or petrochemical university devoted to exploiting the region’s vast reserves of oil and gas, most students have to leave the region for Abu Dhabi City or Al Ain to pursue a higher education. More importantly, the region has not been able to provide enough high skilled jobs for graduates to attract them to work and set up businesses in Al Gharbia upon graduation.

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14 SCAD Statistical Yearbook 2012
as well as the availability of jobs in knowledge services have attracted local women into the workforce. Because Al Gharbia’s economy is still centered around the petroleum industry, which has been traditionally male dominated, women in the Western Region face a shortage of desirable jobs. In Al Ain, the Ain Al Mustaqbal initiative launched by the Abu Dhabi Tawteen Council has started encouraging female employment by providing female job seekers with career needs assessments and by identifying available job opportunities. Overall, unemployment of Nationals is a concern for the region, and particularly Al Ain where unemployment is the highest among Nationals. To address this challenge, the Abu Dhabi Tawteen Council (ADTC) and other public sector entities have tried to increase Emiratization levels in Abu Dhabi. Ultimately, in order to meet this objective, private sector job skills training and increased assistance to young entrepreneurs is necessary to attract Nationals into the labor force in higher numbers. Expanding the local pool of labor and talent and providing them with job opportunities will require additional support services for businesses and job-seekers alike.

Improvement areas

Labor profiling, mapping and skills training

As the public sector positions itself as a provider of training and skills development for Nationals, it is essential to target programs to meet the specific needs of Abu Dhabi and its sub-regions. This first requires building up a robust base of intelligence covering the local labor force at the sub-regional and sector level. Developing detailed labor force profiles for Al Ain, Al Gharbia and Abu Dhabi City will provide both businesses and policymakers with valuable information on the specific composition as well as needs of the region’s workforce. Profiles detailing education, skills, experience, specialization, gender, visa status and other key attributes can then be mapped against business activities, investment, and training opportunities. Identifying the most prevalent gaps will allow for training programs tailored for the specific needs of each region and its priority industries.

Internship programs

To encourage participation in the private sector, the public sector should work in conjunction with private companies in the three regions to offer formal internship programs for local students. By organizing and subsidizing internship programs, the government can help incentivize students to consider positions in the private sector, while also providing them with valuable training.

Petroleum Institute in the Western Region

The Western Region, which boasts the largest wealth of oil and gas reserves of the UAE, does not yet have a university or campus focused on petroleum products. The natural solution would be to open a branch of the Petroleum Institute in Al Gharbia, which could act as a hub for initiatives and activities in the Western Region. By offering skills and education opportunities as well as business and cluster incubation services around petrochemicals, the Institute could take an active role in developing the Western Region.
UAE University
Building a Home-Grown Research Infrastructure

The Al Ain based United Arab Emirates University was established in 1976 as the first truly national research university in the UAE. UAEU consists of nine colleges focused on the following areas: Humanities and Social Sciences; Science; Education; Business and Economics; Law; Food and Agriculture; Engineering; Medicine and Health Sciences; and Information Technology. In 2009, UAEU became the first national institution in the UAE to offer a PhD program. Enrollment in the university has increased from 502 students during the 1978-79 academic year to 13,075 students registered during the 2011-2012 academic year.

UAEU’s emergence as one of the leading universities in the world is reflected in its 2012 designation by QS World University rankings as one of the top 50 universities in the world that were established within the past 50 years. Moreover, during the past 10 years, UAEU’s research faculty members have received over AED 230 million in research funding. Specifically, research groups at UAEU support a number of industries and companies such as Total, Global Foundries, Mubadala and Strata. Such partnerships help these firms to grow further and develop new products while students benefit by having access to internship opportunities offered by these companies.

Also, the university has established a number of training programs by collaborating with a variety of companies. For example, Mubadala Aerospace has signed an AED 4.9 million agreement with UAEU to train Emirati technicians to work at Strata’s aircraft composite production facility. This program will introduce around 100 Emirati employees to Strata by early 2015.

Part of UAEU is the Emirates Center for Innovation and Entrepreneurship, which was established in 2008. It provides training as well as mentoring and serves as an incubator to facilitate new start-up businesses and commercialize technology initiatives and business ideas.

Source: UAE University; Mubadala

Abu Dhabi Competitiveness Report
Improving the Competitiveness of the Emirate of Abu Dhabi

Abu Dhabi Education Council (ADEC) — New School Model Equipping Young Emiratis with the Tools to Build a Vibrant Knowledge Economy

The New School Model (NSM) was rolled out by ADEC initially in schools ranging from KG1 to Grade 3 in 2010 and is planned to be implemented in all ADEC schools by 2016. The NSM will address existing challenges in Abu Dhabi’s public school system to drive concrete and specific improvements in education delivery. It is a comprehensive foundation for learning that will facilitate the delivery of desired student outcomes by improving key elements of the overall educational experience: teaching quality, learning environment, school leadership, and parental involvement. Within this model, a new curriculum and new teaching methods will be introduced in order to develop creative, independent-thinking students who are problem-solvers.

Key elements of the NSM include:
• Improving teaching quality
• Creating a student-focused learning environment
• Developing Arabic and English language abilities; improving critical thinking, problem solving, and abstract and quantitative reasoning skills; and applying rigorous pedagogical tools
• Standardizing the pedagogy and resources across all ADEC schools
• Improving school facilities and resources

The education reform is projected to impact more than 700 schools, 330,000 students and 20,000 teachers by the time that NSM is fully implemented. During its first phase of roll out, the NSM is expected to involve 177 schools, 38,000 students and 4,000 teachers.

A central element of NSM will be a greater focus on improving the quality of Science, Technology, Engineering and Mathematics (STEM) education and increasing the number of students who study science-related subjects. This will be achieved through curriculum reform, content development, and creating a path to STEM-related higher education, employment and entrepreneurship.

Through NSM, ADEC expects that 70 per cent of students graduating from Grade 12 will not need bridge programs by 2018 in order to enter universities, whereas currently nine out of ten students entering some of the largest federal institutions require a bridge program.

Source: Abu Dhabi Education Council (ADEC); Abu Dhabi Government, www.abudhabi.ae; www.khaleejtimes.com
Entrepreneurship

A highly competitive region is one where entrepreneurs can capitalize on their ideas by starting new businesses, raising capital, and selling their goods and services in the marketplace. Creating a “culture of entrepreneurship” is an important concept for competitive economies, as it shows the region’s ability to remain dynamic by meeting consumer demands with new business offerings. An entrepreneurial society also suggests that a region is willing to absorb a certain amount of risk in order to heighten the chances of producing new businesses that can transform the competitive landscape. Because startups have a relatively low success rate, the idea is that for every handful of business failures, there will be one stand-out product or service that will have strong market potential. Even in Silicon Valley California—the global leader in technology and home to the largest number of startup companies per annum—the business success rate for new startups is just 8%. The goal of a highly competitive region is to foster high levels of entrepreneurship, and support those businesses with strong market potential to increase the success rate of new businesses.

Businesses

Following Human Capital, Businesses comprise the second driver of the Competitiveness Assessment Framework. The strength and performance of a regional economy is measured by the activity of its businesses, including the environmental conditions that enable businesses to grow and prosper. This driver measures the entire value chain of doing business, starting with entrepreneurship—how advantageous and feasible it is to start a business—towards growth, financing, and the sale of goods and services. Entrepreneurship levels measure the attractiveness of the region as a place to start a business, which is a direct reflection of the supporting conditions such as laws, regulations, and administrative barriers. Once a business has been formed, firm growth requires capital investment. Of particular interest is business investment and capitalization, as a highly competitive economy should not only have sufficient liquidity, but numerous avenues by which to invest in new business ideas. Firm growth is analyzed by investment, financing, and venture capital activity as well as by exports and actual revenue growth of goods and services. Finally, the business driver of competitiveness is evaluated by innovation, or a business’s ability to create differentiated and specialized goods and services. While there are large gaps in comparable data measuring knowledge and innovation of businesses, patent registration, R&D activity and other intellectual property production measure the competitiveness through the commercialization of ideas.

Entrepreneurship has been growing in the GCC substantially over the past decade, with the MENA region witnessing a 28% growth in the number of venture capital and SME deals executed in 2011 over 2010. The government of Abu Dhabi has made entrepreneurship a priority for the Emirate, with a goal of becoming “a sustainable, diversified, high-value added economy that encourages enterprises and entrepreneurship.” Creating the ideal conditions for entrepreneurs has been a challenge for the region, as reflected by business start-up rates, which in Abu Dhabi are less than half of what they are in Singapore. Business start-ups and micro-enterprises can act as remedies to help allay unemployment concerns for youths and Nationals in the region, which is why effective policies and initiatives for business start-ups could have reverberations throughout the economy.

Because business start-ups are small by nature, administrative barriers that require substantial payments, time, and personnel disproportionately affect new businesses. To address this issue, the Abu Dhabi Department of Economic Development (ADDED) has spearheaded information gathering and cost-benefit analysis studies on impediments to doing business in the region. They have seen some early success such as merging inspection procedures and waiving a waste management fee for new businesses. Reducing additional costs and procedures for new businesses would remove some of the barriers prohibiting entrepreneurs from taking their business plans to market. With the opening of the Abu Dhabi Business Center, which will streamline licensing and business processes, the Emirate should see improvements in the climate for starting and registering new businesses. Entrepreneurship is not necessarily synonymous with innovation, and one of the other challenges for the region's start-ups is providing goods and services that are unique to the marketplace.
SMEs for the region. WRDC has started a “Women in Technology” skill-building program to address this issue, but increased funding and targeted business services such as incubators focusing on start-ups in knowledge sectors or female entrepreneurship in the Western Region are necessary to improve the business climate in Al Gharbia.

In Al Ain, international companies make up 1% of the total businesses, while local SMEs account for almost 70%. Like the Western Region, most of these small businesses operate in low-skilled sectors such as retail and trade, with a large percentage also in the construction industry. This suggests a huge potential for increased entrepreneurial activity in the Eastern Region, particularly given the strong numbers of university graduates as well as the high unemployment rate for the region. More robust programs to encourage graduates in Al Ain to start businesses in key knowledge sectors could impact the region’s competitive landscape substantially.

One way of driving entrepreneurship in priority sectors and regions is to provide incentives for global entrepreneurs to start their businesses in the Emirate. By offering a fast-track visa, seed capital, and business support services to entrepreneurs in specific fields, Abu Dhabi can promote the growth and cluster development of key sectors. Providing support services to entrepreneurs at all stages of the business value chain can also improve the sophistication and success-rate of new businesses. Business incubators provide an ideal environment for both local and global entrepreneurs, as they facilitate all start-up activities and promote the growth and capitalization of new ideas.

The Global Entrepreneur Program is offered by UK Trade & Investment, a government department that helps UK-based companies succeed in the global economy and assists overseas companies to invest in the UK. The GEP mission is to attract the world’s best sustainable, early-stage companies and entrepreneurs to set up their global headquarters in the UK.

Sample Services:
- Provides an “entrepreneurs visa” for individuals looking to come to the UK to set up their business
- Connects entrepreneurs with investors, human resources and strategic partners
- Extended period for business registration

Sample Program
Springboard is a mentorship-led accelerator program for start-ups, providing seed capital, office space and a “smart-community” with mentors and other entrepreneurs. It is an intensive 13 week program based at Google Campus in London and iDiaspace in Cambridge.

Impact
The program has helped over 200 entrepreneurs and early stage companies to establish in the UK since 2009 and it has raised over US$200 million worth of investment capital.

Source: www.ukti.gov.uk
Firm Growth:
Abu Dhabi has made concerted efforts over the past decade to improve the climate for businesses, and has identified Small to Medium Enterprises (SME’s) as one of the engines for economic growth. Of the 300,000 enterprises in the UAE, 94% are SMEs, and these businesses contribute 60% to GDP and 84% to employment.20 This presents an opportunity to increase the economic output of these businesses, where the public sector has a significant role to play in shaping the environment in which they operate. Improving competitiveness at the firm level requires attention to how small businesses receive financing and connect with other businesses and customers.

The first step of supporting growth for small businesses in Abu Dhabi is improving access to finance. Currently, most lending activity comes from the public sector, as local banks and private investors are hesitant to take on significant risk from small businesses. In response to the need for additional business financing, the Abu Dhabi government launched the Khalifa Fund for Enterprise Development in 2007, which consists of a 2 billion AED fund with the aim “To fuel an entrepreneurial culture, drive innovation and sustainable growth of Emirati SMEs that contribute to the social and economic development of Abu Dhabi, by providing access to services and financing, and by facilitating an SME-friendly environment”21. Lending to small businesses is not exclusive to the Khalifa Fund, and small firms in specific sectors such as media and technology can also take advantage of lending programs through Economic Free Zones.

Direct public sector loans to SMEs can allow firms to invest in adequate human and physical capital and help them increase their reach outside their locale. But the public sector can also encourage the private sector to take on a larger role in business financing by reducing risks to lenders and hence encouraging greater levels of financial investment. Bank loans, private equity buy-outs, venture capital activity and private sector angel investors are still low in the region, which means there are still questions about the risk profile and perceived return on investment for small businesses in Abu Dhabi.

One explanation for this is the lack of financial transparency and accounting information for small businesses. Because Abu Dhabi does not tax corporations, private businesses are not required to keep financial records or go through a regular auditing cycle. Hiring accountants to produce financial records can be expensive and time consuming for SMEs, so they are much more likely to have gaps in financial information.

Per Capita Private Equity Investment (2011) (USD)

This has numerous ramifications for firm growth, as banks are less likely to lend to small businesses with no financial records, as is the same for other potential investors, joint venture partners, private equity and venture capital firms, and export partners. Capacity building and policy support around financial transparency is necessary to improve the outlook for small businesses to receive private sector financing.

The venture capital appetite in the Emirates is still modest, partially due to the level of post-investment services needed after initial capital investments22. Similarly, private equity spending is low compared with international benchmarks, albeit higher than other GCC regions. By funding post-investment services through government sponsored business incubators, the public sector can work with private
firms on encouraging SME lending. These services should include capacity building and financial advisory as well as regular operational expertise. There are ample opportunities in Abu Dhabi and the GCC region for the government to work with the private sector to encourage the provision of private sector funding mechanisms. According to the World Bank, “SME bank lending in the MENA accounts for less than 6% of total lending. In the Gulf Cooperation Council (GCC) states, it is dismal low at 2%. Lack of access to capital is often cited as one of the key constraints to the scaling up of SMEs in the region. Yet, this gap also represents an opportunity for private equity and venture capital firms to provide the financial and strategic support that such firms need”. Developing specific private equity and venture capital funds for Abu Dhabi’s three regions would improve the overall SME financing landscape.

Lastly, firm growth is closely associated with the business environment and infrastructure of a region. Abu Dhabi has focused on providing Economic Free Zones and establishing business clusters to help foster industry linkages between companies operating in the region. Twofour14 and KIZAD are examples of free zones that work to attract the best and brightest companies in their various sectors. The zone tenants range from internationally established companies to start-ups, where the smaller firms have access to mentoring and support services. Zones provide numerous services for smaller companies, but only a fraction of total small businesses can reap the benefits of economic zones due to their highly selective nature. Connecting small businesses with adjacent companies in their sector or value chain can help improve firm growth by overcoming information barriers. Industry linkages and clusters should not be exclusive to Economic Free Zones, and ADDED has started to address this issue by providing industry linkage and market intelligence services to select companies, and has recently announced the establishment of an Export Promotion Agency to facilitate in this field. Developing detailed industry, sector and regional cluster maps to businesses can break down some of the information barriers that prevent industry linkages as well.

Innovation

Knowledge-based economies are distinguished by their ability to commercialize innovative ideas, products and service offerings. Firm-level innovation impacts a region’s competitiveness as it allows the economy to compete in a global marketplace through ideas as opposed to low labor costs or natural resources alone. Innovation varies greatly between industries and regions, and thus is difficult to measure categorically, but the research and development activities of firms and academic institutions are useful indicators. Likewise, patent production and intellectual property trends indicate the region’s emphasis on protecting the value of new ideas and products. Business innovation often comes in the form of service or product improvements rather than breakthroughs, so one means of looking at a region’s innovative capacity is the use of advanced technology as well. Abu Dhabi has made substantial investments in improving its innovative capacity, particularly in the field of Science, Technology and Information (STI). Through the Technology Development Committee (TDC), the public sector has channelled funds into improving the Emirate’s technological and innovative capacity. The Takamul program helps in raising awareness of protecting intellectual property, patent applications and filing, which are low in the region compared to international benchmarks. In Alberta and Norway, businesses have leveraged the region’s natural resource advantages and filed patents for innovations in oil and gas extraction. According to NIPG and Capital IQ, in 2012 ExxonMobil filed 749 patents in Norway, while Statoil filed 677. Abu Dhabi should use its expertise and knowledge in natural resources as a starting point for increased patent production, and then broaden to other industries where it has specific expertise.

One means of improving patent production and supporting innovation in Abu Dhabi is to increase the number of doctoral programs and labs in the region, and cluster them with local industries to promote industry innovation. Ensuring that international businesses bring technology and innovation to the region is also important for local firms that work throughout their supply chain. The Emirate has strengthened its intellectual property laws to incentivize businesses with sensitive intellectual content to do business in the region, and patent, trademark and copyright laws were updated in 2002 to protect intellectual property.

Oil and Gas Patents (2002-2006)

In order to improve the business climate in the region, Abu Dhabi needs to increase the availability and sophistication of support services and development incentives for businesses. This includes ensuring that lack of financing or information barriers do not prohibit entrepreneurs and good ideas from going to market. While the public sector has committed funds to increasing finance, further development could come in public-private partnerships, where the public sector can fund initiatives operated by the private sector. This should especially be utilized in business training and capacity building, incubator services, investment and venture capital funds, and IP funding—which are all arenas where private sector dynamism and expertise can be best utilized by local companies.
Business Incubators

Business incubators help small companies and entrepreneurs with the potential to offer differentiated and specialized products and services succeed in the marketplace. The business incubator is set up to assist with every aspect of business services and offer the entire value-chain of support for its tenants.

An incubator should house numerous businesses services available under one roof and set the conditions for potential growth. Once the culture of business incubators is adopted in the Emirate, specialized and sophisticated incubators can emerge around priority Industries and specific services such as technology adoption.

The public sector should work in tandem with industry leaders and economic zones to promulgate the use of incubators throughout the Emirate and its three regions. Rather than establishing wholesale public sector incubators that act as funding units, which might detract from the dynamism of private sector business service offerings, one option could be for the public sector to design and fund incubators, but turn them to the private sector to operate. This would allow the public sector to drive the initiative while the private sector ensures market-driven achievements.

Financial Accounting Capacity Building

Transparency of financial accounts at the firm level is essential for bank loans, joint ventures, private equity and other investment, and for Abu Dhabi’s firms to do business with other firms internationally. To improve the current competitive landscape for start-ups and SME’s, Abu Dhabi should encourage accounting capacity building for small businesses, to eventually move toward International Financial Reporting Standards. The public sector should continue supporting training and capacity building in this field and enforce regular auditing.

Three mechanisms for capacity building are:

- Providing assistance and training to businesses on accounting and financial record-keeping
- Supporting and enforcing a transition to adherence of International Financial Reporting Standards
- Working with banks to increase available finance for companies who report financial results or maintain a regular audit cycle. Mechanisms include small firm loan guarantee schemes.

International Entrepreneurs Program

To grow the culture of entrepreneurship, Abu Dhabi needs to cultivate and foster both local and global entrepreneurs. This program would be aimed at attracting entrepreneurs in target industries and sectors to come establish operations in Abu Dhabi. The program would seek and identify entrepreneurs from around the world in knowledge industries, and provide them with services such as:

- Expedited “entrepreneurs visa”
- Services providing potential partners and clients
- Extended period for business registration
- Incubator services: seed capital, office space and university support and access

Sources: wWw.nrf.gov.sg

Benchmark Case Study: Technology Incubation Scheme in Singapore

The Technology Incubation Scheme (TIS) is part of the National Framework for Innovation & Enterprise (NFIE), which was developed in 2008 with a $360 million budget to advance R&D-based innovation in Singapore. Through this scheme, the Singapore government co-invests together with incubators in Singapore-based high-tech startups to support an innovative and an entrepreneurial economy.

Under the TIS, the National Research Foundation (NRF) offers up to 85% co-funding in each start-up company in the incubator, up to a maximum of $500,000. The incubator is required to invest the remaining amount at least 15%. NRF and the incubator will take equity stakes in the company in proportion to their investments; it also provides start-ups with management guidance and mentorship.

Impact

- 31 start-ups have benefited from seven investors or technology incubators since 2009
- Incubators include successful Plug and Play Accelerator from Silicon Valley and incubators set up by internet entrepreneurs

Incubator services can include:

- Facilitating business start-ups
- Networking and industry linkages
- Marketing and branding support
- Accounting and financial management support
- Access to finance such as bank loans, loan funds and guarantee programs
- Help with business plan writing, presentation skills
- Higher education linkages and resources
- Links to strategic partners
- Access to industry information and expertise
- Export promotion and international industry linkages

Access to angel investors or venture capital
Comprehensive business training programs
Providing advisory boards and mentors
Management team identification
Acquiring, incorporating and maximizing technology
Commercialization assistance
Help with regulatory compliance
Intellectual property management and patent filing
Attainment of necessary licenses and certificates
Providing office space and facilities

Sources: wWw.northeastfinance.org; The North East Business and Innovation Centre; Growth Finance Still Available For North East SME’s, 2013
Abu Dhabi Venture Capital Fund

Venture Capital funds have recently been introduced into the region, with Khalifa Fund spearheading a number of SME financing programs, but there is no Abu-Dhabi specific venture capital firm/fund that is managed by the private sector and focused solely on the Emirate. Public-private partnership Venture Capital funds can be set up to invest in priority sectors in the three regions, with large funds going specifically to Al Ain and Al Gharbia. The funds would be designed, built and capitalized by the public sector, and managed and operated by seasoned finance professionals in the private sector. Investments must be made on a commercial basis, where the business has promising growth potential. These funds should align with the efforts of business incubators in the region.

The goal of an Abu Dhabi Venture Capital fund is to drive funds efficiently into target sectors (currently real estate is the primary market for investment), and into businesses operating in the sub-regions of Abu Dhabi. This should improve the new firm generation rate as well as firm growth.

Doing Business Assessments

The public sector has taken numerous steps to reduce administrative barriers and support the private sector throughout the Emirate, but there are still notable challenges that remain around administrative costs and procedures. ADDED should continue to reduce these bottlenecks by evaluating the impact of administrative barriers on businesses, including: registration and licensing procedures (time and complexity); hiring and mobilizing labor; receiving finance and loans; and connecting with other businesses and industries through support service programs or cluster development initiatives. Particular focus should be paid on the disparity of doing business between the three regions.

Improvements should include

- Eliminating unnecessary or unessential fees
- Combining or streamlining fees to reduce separate payments
- Reducing fees that are onerous to new businesses
- Ensuring a valid businesses case justifying the need for existing fees
- Streamlining or eliminating unnecessary procedures
- Reducing the turnaround time for procedures
- Reducing the complexity of procedures
- Guiding businesses through all business procedures including permits, contracts, licenses and adherence

The final result will be a restructuring of business processes in order to increase competitiveness where needed.
**twofour54 — Creating a Support Ecosystem for Emerging Entrepreneurs in the Media Industry**

twofour54 — also known as the Abu Dhabi Media Zone Authority – is an initiative by the Abu Dhabi Government to support the development of world-class Arabic media and entertainment content, and to position Abu Dhabi as a regional center of excellence in content creation across a range of media platforms including broadcast, film, music, digital media, gaming and publishing.

The business philosophy of twofour54 is the creation of a nurturing ecosystem that provides the tools, infrastructure and support to promising companies and organizations in the Arab world to create high quality content. To achieve this, twofour54 has developed three key business pillars and a supporting business enabler.

**Business Pillars**

- **tadreeb (the training academy)** - Supporting young talent to become successful via collaboration with leading international media companies to provide courses for media professionals as well as college graduates with majors in media-related subjects.
- **ibtikar (innovation and support)** - A creative lab facility that supports Arabic content development and media initiatives.
- **intaj (state-of-the-art production facilities)** - Provides modern production facilities including studios, equipment and technical support for television and film production, along with post-production.

**Business Enabler**

- **tawasol (one stop-shop)** - Provides a number of support services related to business start-ups including government services; customs clearance; flight arrangements and others.

Currently, there are approximately 160 companies based at twofour54 including CNN, the Financial times and Sky News Arabia. Also, all training offered at the training academy is vocational helping trainees to develop practical skills and apply them in the workplace. To date, twofour54 has trained over 3,000 delegates.

The twofour54 model has emerged as an important local benchmark for a business incubator and the lessons learned to date have direct relevance for future business incubators that may be developed for other priority sectors in the Emirate.

Source: twofour54; The National

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**Key Success Factors for Increasing Access to Finance for SMEs**

**Lessons for Abu Dhabi and the UAE**

International leading practice has identified a number of policies successfully implemented by countries to improve access to finance for SMEs. Based on the key challenges identified in the UAE context, these policies are directly relevant to Abu Dhabi Emirate and the UAE. Examples include:

- Reforming the legal and regulatory environment. Illustrative examples include simplifying business start-up requirements and accounting procedures.
- Identifying policy interventions for the SME finance sector as a whole. Demand-side interventions (SMEs) include capacity building programs in areas such as financial management and accounting. Supply-side interventions (banks) include creation of collateral registries and credit bureaus.
- Direct government intervention in the SME finance sector to support increased SME lending. Although there is no consensus on the scope of government involvement in the SME finance sector, a number of governments provide loan guarantees and directed credit in an effort to stimulate the SME sector.

The following table summarizes some of the most important interventions by governments to improve access to finance for SMEs.

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<th>Establish a sound policy framework for the financial sector</th>
<th>Strengthen the institutional infrastructure</th>
<th>Build the information infrastructure</th>
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<td>- Liberalize interest rates</td>
<td>- Support relevant training and technical assistance for interested financial institutions</td>
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<tr>
<td>- Promote competition</td>
<td>- Provide or facilitate initial financial support (equity infusion, product development, risk mitigation methodologies)</td>
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<td>- Promulgate supportive regulations regarding SME banking, leasing, factoring and equity</td>
<td>- Promote accounting standards</td>
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<td>- Reduce and rationalize direct public sector intervention</td>
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<td>- Improve the legal and judicial frameworks</td>
<td>- Invest in technology</td>
<td></td>
</tr>
</tbody>
</table>

Evaluating performance and incorporating lessons learned

Sources:


“A sustainable economy will be built primarily through diversification, which is proven to reduce the volatility of economic growth. Diversification means not only broadening the number of economic sectors taking part in economic activity, but also enlarging the enterprise base, encouraging entrepreneurs, small businesses and Foreign Direct Investment (FDI), as well as developing National Champion enterprises to act as economic anchors.”

Abu Dhabi Economic Vision 2030

Along with Human Capital and Businesses, the third driver of competitiveness is Economic Structure. This driver shows an aggregate view of the economic activity of a region, taking into consideration the diversification of sectors, as well as the geographic location of investment and business activity. Economic Structure reflects the contribution of various sectors to the economy’s GDP, as well as labor productivity, employment, and wages at the sector level. More importantly, the attractiveness of an economy can be measured by the levels of foreign investment into these sectors, as this indicates which industries have a comparative advantage in Abu Dhabi over other sectors, as this indicates which industries have a comparative advantage in Abu Dhabi over other regions. Economic Structure also covers the flows of economic activity into geographical regions, mainly comparing the development of sub-regions as competitive locations relative to the capital city. The structure of an economy gives a longer-term outlook on competitiveness, measuring the sustainability of the region and its ability to generate wealth and maintain or grow standards of living.

Diversification

Abu Dhabi’s economic structure has been marked by a heavy reliance on oil and gas to generate wealth for the region. This issue is at the forefront of the government’s agenda, as it has stipulated diversification of the economy as one of the three crucial priorities looking into 2030. Long-term sustainable diversification will require expanding the private sector, and particularly growing the economic output and contribution of key industries within the Emirate. The presence of hydrocarbons has allowed Abu Dhabi to make significant infrastructural investments and large-scale improvements to competitiveness over the past decade. The government has devoted its resources to building a world-class sea port, airport, and communications network as well as commercial, industrial, and residential real estate developments. Like other resource-abundant regions in the GCC, heavy investment in infrastructure and industry projects has allowed the Emirate to attract laborers, businesses and investors into its economy in just a few decades. But to meet the Emirate’s goals of transitioning from a resource-based to a knowledge-based economy, diversifying into high skill high value-added sectors remains the biggest challenge.

Currently Abu Dhabi boasts one of the strongest GDP per capita rates in the world, and Emirati nationals enjoy high standards of living relative to benchmark and global regions. But once GDP is controlled for oil and gas contribution, the remaining sectors combined amount to roughly 40% of the economy, which highlights the importance of diversification for the Emirate. Growing the non-oil sectors of the economy—particularly the high-skilled goods and services provided by the private sector—is essential for long-term sustainability as Abu Dhabi plans for a future less dependent on hydrocarbons. This circumstance is further heightened in Al Gharbia, where oil and gas account for 90% of the region’s GDP. While continuous investment and development of the oil and gas sector is necessary so that it remains a long-term source of wealth for the region, upstream products are less labor intensive and cannot provide employment opportunities for the next generation of jobseekers in the Emirate.

The current economic structure is such that most GDP contribution comes from sectors more prone to volatility, which also do not provide high levels of employment. Currently the public sector and retail and trade service sectors employ the most nationals, while construction and low-skilled activities employ a majority of foreign labors. These sectors are not high-contributors to GDP relative to employment, and do not represent high potential for exports or value-added goods and services. Alternatively, the oil and gas sector is the top contributor to GDP at 60%, but employs less than 15% of the population. Diversifying the economy will entail moving into sectors that provide robust contribution to GDP, high value-add, as well as employment opportunities for Nationals. Abu Dhabi is well positioned to use its natural resource advantages to fuel adjacent industries which have higher value-added output per worker input.
Manufacturing

One of the target industries for diversification is high-tech manufacturing, mainly in the downstream chemicals and petrochemicals sector. Currently manufacturing only accounts for 5% of Abu Dhabi’s economy, which is low for a resource-abundant and well capitalized region. Of this percentage, however, nearly half of Abu Dhabi’s manufacturing is in high-tech industry, which has promising implications for expanding the base into specialized manufactured goods. Abu Dhabi’s natural advantage in manufacturing is in the petrochemicals sector, where it can benefit from local feedstock over Asian countries which rely on imports. Chemicals and plastics account for nearly 40% of the value added output in Abu Dhabi’s manufacturing sector, which means that after inputs and intermediate goods are subtracted, chemicals contribute the most per unit of any manufacturing activity. Playing to its competitive advantage in chemicals will provide Abu Dhabi with a strong industrial base, increased exports and high-skilled jobs.

Currently, Abu Dhabi’s chemicals sector contributes nearly 60% to manufacturing output, and employs hundreds of Emiratis in high-skill jobs. The petrochemicals industry alone accounts for about 2% of the industrial workforce in the whole of UAE, with job creation growing double digits throughout the GCC. As production moves further downstream into plastics and specialized petrochemicals, production becomes more labor intensive and requires more high-skill workers. Providing high-skill manufacturing jobs for Emiratis is a priority of the government, so ensuring adequate education and training in this sector is necessary for structural improvements in the economy.

One of the key successes of Abu Dhabi’s diversification efforts has been the establishment and development of Economic Free Zones (or Special Economic Zones) which offer dedicated support services and favorable regulations to the clusters and industrial cities within their premise. There are currently four zones in Abu Dhabi which have clustered adjacent industrial activities such as manufacturing, agricultural processing, chemicals, construction materials, technology, and environmental industries. In order to attract larger investments to Al Ain, Zones Corp has established the Al Ain Industrial City which promotes manufacturing production and industry linkages in the region.

As Abu Dhabi develops its strategic sectors, enhancing cluster infrastructure is necessary to encourage business and industry collaboration. Clusters are important for industrial development as they can connect companies to one another as well as to government agencies, research and institutions, universities and other resources. Firms operating in clusters tend to be more productive, highly innovative and well-paying in comparison to their peers that are more geographically isolated with fewer linkages to other firms. Cluster development constitutes a centerpiece of Abu Dhabi’s long-term economic development strategy.

Foreign Direct Investment

One indicator of competitiveness at the sector level is foreign direct investment flows into the region from abroad. A sector’s ability to attract strong levels of foreign investment bodes well for its long-term sustainability, as it signals perceptions about the growth potential and dynamism of the industries within it. Increasing foreign investment into long-term strategic sectors that are less volatile than hydrocarbons and real estate is a top priority for the Emirate. As a transitioning economy, Abu Dhabi has been able to attract strong levels of foreign investment. A large percentage (over $4bn) of this investment in Abu Dhabi is in the real estate sector.
sector, which still highlights the dominance of physical capital and infrastructure spending in the region. While the real estate sector has seen strong growth over the past five years, it is a far more volatile sector than high-tech manufacturing or professional services.

Another relevant measure for Abu Dhabi’s industries is gross fixed capital formation. Gross fixed capital formation measures how much new value added into a sector is invested rather than consumed. This includes acquisitions of new fixed assets by businesses, households and the government, as well as new value added to assets by the productive activity of a sector. This indicator is relevant for Abu Dhabi’s economic structure as it measures the level of capital investment by each sector into itself, and can be a measure of its potential for growth, production, dynamism and sustainability. Oil and gas and the public sector contribute the highest amount of fixed capital formation at just under AED 50b each, accounting for 50% of all fixed capital investment, while the ICT and professional, scientific and technical sectors combined amount to under 2%. While competitive resource-abundant economies such as Canada and Norway have similar levels of investment in oil and gas extraction, the public sector only accounts for 10% of total fixed capital formation. This is due to the large amounts of private sector investment into new assets by businesses in these mature economies. Ideally, Abu Dhabi’s efforts to grow and enhance the private sector will decrease the dependency on public sector funds to propel economic investment in key sectors.

Abu Dhabi’s Department of Economic Development has published a series of new initiatives aimed at bolstering the private sector, with the goals of raising the contribution of the non-oil sector from the 2005 level of 40% of the Abu Dhabi economy to 64% by 2030. This includes increasing government procurement contracts to the private sector by 10% and establishing an Export Promotion Agency.

Overview of Select Sectors

Currently, mining and quarrying and construction account for more than two thirds of Abu Dhabi’s economy. In order to encourage diversification, the government has identified 12 strategic sectors in which to target future investment, which include tourism, healthcare, education, financial services and telecom services. Expanding the role of these strategic sectors in the economy will require comprehensive support services for foreign investors. Neighboring Gulf regions have attracted strong investment through lease and utility incentives and other support services such as one-stop investment promotion shops. In order to drive investment into its target sectors and reduce the prevalence of construction and other low value-added sectors, Abu Dhabi needs to consider a robust offering of support services to investors.

Below is an overview of the performance of some of Abu Dhabi’s target sectors:

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30 SCAD 2010
31 Statistics Norway 2012
Finance and Insurance
Abu Dhabi has seen strong growth in the finance and insurance sector over the past few years, largely due to the growth of Takful, a form of Islamic insurance. The sector was the second largest recipient of FDI after real estate in 2009, attracting more than AED 60 billion in investment. Still, investment in this sector is relatively low. This sector promises potential for the Emirate, as it weathered the financial crisis with an 8% average growth rate between 2005-2011. As a high-skill knowledge industry, finance and insurance is associated with high wages, though still below oil and gas and the public sector.

Healthcare and Education
Due to large-scale strategic investments by the public sector in education and healthcare, both sectors have demonstrated compelling growth in employment numbers. While Emiratization is lower in the healthcare sector at 6.4%, the growth of the healthcare sector has increased the number of knowledge-based jobs for Emiratis and particularly women. Still, the majority of the 60 percent year-on-year growth in education services between 2008 and 2011 can be attributed to the recruitment of foreign teachers and educational workers into the expanded program offerings of schools and universities.

Employment in healthcare grew by 52% year-on-year for the same period, and was matched with foreign private healthcare providers such as Cleveland Clinic and Johns Hopkins, which have been brought in to run public hospitals and facilitate transition towards a private health care model for Abu Dhabi. As these facilities open for operation after construction. The healthcare industry is lower in the healthcare sector at 6.4%, the growth of the education sector has increased the number of knowledge-based jobs for Emiratis and particularly women. Still, the majority of the 60 percent year-on-year growth in education services between 2008 and 2011 can be attributed to the recruitment of foreign teachers and educational workers into the expanded program offerings of schools and universities.

ICT
The UAE has invested heavily in its information and communications technology sector, and boasts one of the strongest ICT infrastructures in the Middle East. Abu Dhabi has consistently ranked among the top performers in international telecommunication competitiveness indices largely due to a strong infrastructure, and high mobile and internet penetration ratios. In terms of mobile phone subscribers, broadband capabilities, secure servers and internet hosts, the sector has shown strong growth. The number of mobile cellular subscriptions increased to 200% and internet subscribers increased to 23% in 2011. Research by Ericson and the World Bank shows that investing in broadband capabilities is directly correlated with GDP growth, and while Abu Dhabi is still below mature economies like Singapore and Norway, it is competitive relative to GCC neighbors. Similarly, FDI is still low in the ICT sector relative to other benchmarks, but fares well within the GCC.

Abu Dhabi Top Sectors by GDP, 2011 (%)

<table>
<thead>
<tr>
<th>Sector</th>
<th>GDP %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining and Quarying</td>
<td>58.5</td>
</tr>
<tr>
<td>Construction</td>
<td>10.1</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>5</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>4.8</td>
</tr>
<tr>
<td>Real Estate</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Source: SCAD Statistical Yearbook 2012

in specialized medical fields. While FDI is relatively low in healthcare, privatization could increase its attractiveness for global investors and improve healthcare competitiveness for the Emirate.

ICT
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The tourism sector showed a compound annual growth rate of 7.15% year-on-year between 2005 and 2011, which bodes well for the Emirate given the global slowdown in tourism since the financial crisis. Abu Dhabi has invested substantially in its tourism sector, and has further plans to increase tourists to the Eastern and Western regions, as Abu Dhabi City still hosts the majority of tourists in the region. Abu Dhabi Tourism Authority has recently opened international offices in the UK, France, Germany, Italy, China and Australia in its efforts to attract increased numbers of tourists from target countries. Employment for the sector grew at a rate of 7.5% year-on-year, at a faster pace than GDP mainly due to new hotels and theme parks coming online. Foreign investment for the sector in Abu Dhabi was AED 4 million in 2009, which is one area that has high growth potential going forward.

Tourism
The Abu Dhabi Economic Vision 2030 highlights investment and development of the Emirate’s sub-regions as one of its key goals. “The simultaneous development of the Regions to keep pace with that of the Capital is also an important policy priority in order to achieve an Emirate-wide distribution of economic activity and associated benefits.” Improving the competitiveness of the Emirate as a whole will require substantial investment into Abu Dhabi’s Eastern and Western regions. Currently, Abu Dhabi city is the center for most investment and non-oil economic activity. Relative to Abu Dhabi City, both Al Ain and Al Gharbia have low levels of non-oil economic output, and have faced challenges in attracting labor, businesses and financing into their strategic sectors.

Current standards of living for Emiratis, as measured by earnings, are highest in Abu Dhabi. This is largely due to the concentration of high-paying public sector jobs, which employ more than 60% of Emiratis in Abu Dhabi. Emiratization levels are also high in the oil and gas sector, which accounts for higher earnings in Al Gharbia relative to Al Ain.

Regional Disparities
The Abu Dhabi Economic Vision 2030 highlights investment and development of the Emirate’s sub-regions as one of its key goals. “The simultaneous development of the Regions to keep pace with that of the Capital is also an important policy priority in order to achieve an Emirate-wide distribution of economic activity and associated benefits.” Improving the competitiveness of the Emirate as a whole will require substantial investment into Abu Dhabi’s Eastern and Western regions. Currently, Abu Dhabi city is the center for most investment and non-oil economic activity. Relative to Abu Dhabi City, both Al Ain and Al Gharbia have low levels of non-oil economic output, and have faced challenges in attracting labor, businesses and financing into their strategic sectors.

Current standards of living for Emiratis, as measured by earnings, are highest in Abu Dhabi. This is largely due to the concentration of high-paying public sector jobs, which employ more than 60% of Emiratis in Abu Dhabi. Emiratization levels are also high in the oil and gas sector, which accounts for higher earnings in Al Gharbia relative to Al Ain.
Currently, there is a lack of investment and export data available for Al Ain and Al Gharbia, which prevents a robust assessment of the economic activity at the sub-regional level. The Western Region Development Council (WRDC) has, however, worked with public and private sector stakeholders in improving the investment climate of the region through a number of new initiatives. These include infrastructure and tourism development as well as industrial initiatives. Landmark projects include future plans for the development of the Etihad Rail network to connect residents to other regions, the development of a nuclear facility in the Western Region and the building of Shams 1, which will be the largest concentrated solar power plant in the world. Some of the other key WRDC initiatives are supporting higher education and vocational educational institutions, implementation of the Al Gharbia Economic Development strategy in target sectors, and the creation of new programs for SMEs in target sectors.  

**Benchmark Case Study: U.S Cluster Mapping**

The U.S Cluster Mapping project aims to provide policymakers and development practitioners across America with rich data and tools for understanding industry clusters in every region of the country, together with tool kits and case studies to assist in formulating economic development strategies. In addition, the project contributes to the development of active cluster initiatives throughout the country.

**Coverage and Size:**
- 41 clusters currently, with plans to map the entire U.S.

**Key Data Elements:**
- Each region’s clusters include specialization, employment, wages, job creation, patents
- Comparisons of clusters across the U.S.
- Overall regional economic performance (performance indicators, patents, jobs, wages)
- Characteristics of cluster initiatives

**Method:**
- Clusters are defined by creating a grouping of standard industry codes using employment linkages across geographies. Underlying data source is the Census Bureau’s County Business Patterns.

Source: mvp.clustermapping.us

Improvement areas

Improving the outlook of Abu Dhabi’s economic structure will entail driving targeted investment into key sectors of the economy and into the Eastern and Western regions. This requires setting up investment incentives, services, programs and councils, increasing information availability and branding the Eastern and Western regions as desirable places to invest.

**Cluster Mapping**

Developing Abu Dhabi’s clusters can improve the competitiveness of the region by encouraging industry linkages and specialized business activity. Harvard University professor Michael Porter describes clusters as “a different way of dividing the economy than is embodied in conventional industrial classification systems which are based primarily on product type and similarities in production.” Developing specific cluster maps for target sectors and geographical regions, would help policymakers and businesses with intelligence about the areas and industries in which they do business. Cluster maps should provide guidance on targeted investment, government programs, and areas for business expansion.

**Objectives of Cluster Mapping:**
- To define and describe clusters across the Emirate (to understand how Abu Dhabi’s economy is structured, and where its specializations lie)
- To define supply chain linkages (upstream and downstream linkages)
- To identify gaps in clusters (i.e. missing linkages)
- To facilitate informed discussions with policymakers, cluster practitioners, and industry leaders around cluster development initiatives

**Improvement areas**

Several cluster initiatives are currently underway in Abu Dhabi, including the following:

**KIZAD**

The Khalifa Industrial Zone – Abu Dhabi (KIZAD) seeks to attract world class companies, and to establish global industry best practices in terms of zone operations. KIZAD’s core objectives are job creation and foreign investment attraction. KIZAD expects to contribute to the creation of 100,000 jobs in Abu Dhabi. In addition, it is projected to contribute approximately 15% of the Emirate’s non-oil GDP. KIZAD estimates that between 65% to 80% of the goods manufactured within its premises will be exported.

**Masdar City**

Masdar City is an industry cluster for renewable energy and clean technologies. It is intended to be a dynamic, entrepreneurial environment that attracts world-class talent, financial entities, entrepreneurs, companies and service providers that are focused on renewable and cleantech industry. The objective is to create a community where cutting-edge research and development, pilot projects, and technology testing will occur.

**Sky City – Abu Dhabi Airports Company**

Skycity will be the first Airport Free Zone in Abu Dhabi – a comprehensive Business Park that intends to attract diversified private sector investments in a variety of sectors including aviation, aerospace, airport services, cargo, freight and logistics sectors.  

46 WRDC Strategy 2012-2016 Executive Summary

ZonesCorp
Creating a Platform for Industrial Development in Abu Dhabi

ZonesCorp develops, operates and administers specialized economic zones throughout Abu Dhabi Emirate. It was established in 2004 to support growth of the industrial sector and create a diversified economic base in the Emirate of Abu Dhabi and the wider UAE. One of the principal mechanisms through which it achieves this goal is applying a public-private partnership (PPP) management structure approach and leveraging resources from the ZonesCorp Infrastructure Investment Fund. This fund was established to invest in ZonesCorp-commissioned infrastructure-related projects in the UAE.

Currently, ZonesCorp manages a number of industrial zones including ICAD and Al Ain Industrial City. Additional zones being developed or planned include a Construction and Building Materials Zones, additional Worker Residential Cities and an Automobile Industry Zone.

ZonesCorp plays an integral role into diversifying Abu Dhabi’s economy away from oil related sectors, as the Emirate continues to focus on transitioning into a knowledge-based economy. Specifically, ZonesCorp has successfully leveraged Abu Dhabi’s industrial resources by attracting local and international investors to the industrial zones. $5 billion worth of manufacturing investments were made by projects managed by ZonesCorp, representing almost 10% of Abu Dhabi’s GDP.

To date, ZonesCorp has attracted over 600 companies in the industrial cities and has granted over 1,000 industrial licenses within its industrial zones, which are worth approximately $13 billion.

Source: ZonesCorp; Arabianbusiness.com

Western Region Development Council
Creating a Model for Sustainable Economic Development in Al Gharbia

The Western Region Development Council (WRDC) started in 2006, and works with relevant government entities within Abu Dhabi Emirate to improve social development, education, healthcare, and infrastructure for the Western Region.

The WRDC is organized under 4 divisions: 1) Regional Development; 2) Investment Promotion and Public Relations; 3) Strategy & Finance; 4) Support Services:

- Regional Development. Partners with local government entities and companies to improve infrastructure, healthcare, education, government and other services for the region.
- Investment Promotion and Public Relations. Increases awareness of the region to promote tourism and attract investment. The unit also supports initiatives related to business environment improvement.
- Strategy and Finance. Manages strategy development for WRDC, including the preparation of annual, 5-Year and 10-Year Development Plans and budgets; key performance indicators (KPIs); benchmarking; finance and accounting; and financial forecasting.
- Support Services. Supports WRDC units and oversees other internal WRDC functions such as human resource management, procurement processing and other administrative activities.

Some examples of how WRDC has impacted the competitiveness of the Western Region include the following:

- WRDC Scholarship Program providing top performing students with higher education opportunities
- Establishment of the Estishara scheme offering technical assistance to developers in Al Gharbia
- Etihad railway project worth $ 11 billion estimated to be completed by 2018

WRDC serves as the principal institutional catalyst for driving the competitiveness agenda forward in the Western Region. By regularly engaging partners in the local government and the private sector, it can leverage a broader range of resources that are essential for the successful delivery of key competitiveness initiatives.

Mubadala Aerospace
Building a Global Aviation and Aerospace Hub in Al Ain

Mubadala Aerospace is developing Al Ain as a global aerospace hub, in tandem with Abu Dhabi Emirate’s long-term economic diversification and industrialization strategy. To achieve this, Mubadala Aerospace has entered into a number of strategic partnerships with global aviation and aerospace companies to develop a world-class technology and manufacturing base.

• EADS/Airbus. Mubadala has entered into a Master Supply Agreement with the European aerospace group EADS / Airbus to develop an aircraft composites manufacturing base.

• General Electric (gE). Mubadala has entered into a framework agreement with GE to collaborate in a range of areas including maintenance repair and overhaul services for GE aircraft engines operating in the Middle East.

• FACC. Mubadala has formed an industrial partnership and entered into a supplier agreement with FACC AG of Austria, one of the leading global companies involved in the design, development and production of advanced composite components and systems for the aviation sector. Major FACC clients include Boeing, Airbus, Bombardier and Embraer.

Building a highly-skilled cadre of Emirati nationals to support the sector is another core objective. Mubadala has launched a number of education and training programs, including a pilot training academy, to prepare young Emiratis to fill the 10,000 jobs in the aviation/aerospace sector that are projected by 2030. It is expected that the aerospace hub will contribute 1% of the Emirate’s GDP.

Abu Dhabi’s plan to build an industrial cluster for the aerospace sector in Al Ain plays a key role in growing high-value-added businesses and diversifying the economy. Through partnerships with international firms at the cluster and an investment of around AED 37 billion from the Abu Dhabi government, this project will attract foreign investment and encourage global companies to open offices in the aviation cluster.

Source: Mubadala Aerospace; TheNational
**ABU DHABI CITY**

**POPULATION**
- 1,310,300
- 18% Nationals
- 82% Non-Nationals

**EDUCATION**
- 12.40 Students per Teacher
- 9.76% % Population with University Degrees (Nationals -10 yrs. & over)
- 10% Illiteracy Rate

**LABOR FORCE**
- 68% Nationals
- 92% Non-Nationals
- 15.8% Female Labor Force Participation
- 10% Unemployed Nationals as a % of National Labor Force
- 2.57% Unemployed as % of Labor Force

**UNEMPLOYMENT**
- 6.8% Total Unemployed National Males
- 17.8% Total Unemployed National Females

**EARNINGS**
- 53,076 AED Annual Avg. Per Capita Earnings - Nationals
- 46,075 AED Annual Avg. Per Capita Earnings - Non-Nationals

**LABOR PRODUCTIVITY**
- 573,355 AED GDP Per Employee - Population Based

**BUSINESSES**
- 2.86 New Firm Generation per 1,000 Population
- 64.27 Total Firms per 1,000 Population

**Type of Business Licenses**
- 34% Limited Liability
- 15% Other
- 6% International Companies
- 44% Individual

**Business Licenses by Sector**
- Education
- Information and communication
- Mining and Quarrying
- Light Manufacturing
- Hospitality and food
- Real estate
- Insurance and financial services
- Professional activities (scientific & technical)
- Other
- Construction
- Wholesale and retail trade

### Population
- 225,700
- 85% Nationals
- 11% Non-Nationals

### Education
- 8.80
  - Students per Teacher
- 7.7%
  - Illiteracy Rate

### Labor Force
- 85%
  - National
- 95%
  - Non-Nationals

### Unemployment
- 3.7%
  - Female Labor Force Participation
- 9%
  - Unemployed Nationals as a % of National Labor Force
- 5.2%
  - Total Unemployed National Males
- 27.8%
  - Total Unemployed National Females
- 0.87%
  - Unemployed as a % of Labor Force

### Earnings
- 41,560 AED
  - Annual Avg. Per Capita Earnings – Nationals
- 30,187 AED
  - Annual Avg. Per Capita Earnings – Non-Nationals

### GDP Per Employee
- 451,772 AED
  - Population Based

### Business Licenses by Sector
- Education
- Information and communication
- Insurance and financial services
- Mining and Quarrying
- Real estate
- Hospitality and food
- Professional activities (scientific & technical)
- Light Manufacturing
- Other
- Wholesale and retail trade
- Construction

### Business Licenses
- Type of Business Licenses
  - Limited Liability
  - Individual
  - Other
  - International Companies

### New Firm Generation
- 2.66
  - New Firm Generation per 1,000 Population

### Total Firms per 1,000 Population
- 58.04

### Sources:
- SCAD Statistical Yearbook 2012
- Abu Dhabi Department of Economic Development
AL AIN

**Population**
- Nationals: 584,800
- Non-Nationals: 31\%

**Labor Force**
- Total: 584,800
- Nationals: 62\%
- Non-Nationals: 38\%

- Female Labor Force Participation: 62\%
- Male Labor Force Participation: 86\%

**Unemployment**
- Total Unemployed: 21,650
- Nationals: 9.76\%
- Non-Nationals: 14\%

**Labor Productivity**
- GDP Per Employee: 645,520 AED

**Education**
- Students per Teacher: 9.76
- Literacy Rate: 7.3\%

**Earnings**
- Annual Avg. Per Capita Earnings - Nationals: 33,333 AED
- Annual Avg. Per Capita Earnings - Non-Nationals: 21,650 AED

**Businesses**
- New Firm Generation per 1,000 Population: 2.37
- Total Firms per 1,000 Population: 49.26

**Type of Business Licenses**
- Limited Liability: 69\%
- Individual: 69\%
- Other: 21\%
- International Companies: 1\%

**Business Licenses by Sector**
- Mining and Quarrying
- Education
- Information and communication
- Insurance and financial services
- Real estate
- Professional activities (scientific & technical)
- Hospitality and food
- Light Manufacturing
- Other
- Construction
- Wholesale and retail trade

Improving Abu Dhabi’s economic competitiveness requires a detailed understanding of both the current state of play in the Emirate as well as the future state model that is outlined in the Abu Dhabi Economic Vision 2030. Since competitiveness cuts across all dimensions of an economy from the micro to the macro levels, the Abu Dhabi-specific competitiveness framework described in this report will enable policy makers to identify the principal competitiveness challenges in the Emirate and its sub-regions; define priorities for intervention; and design and implement targeted policies and initiatives to address these priorities.

The improvement areas highlighted in the report should contribute to enhancing competitiveness under each of the key drivers, Human Capital, Businesses, and Economic Structure, but will also have dependencies to others. They will not operate in isolation, instead contributing to the overall competitiveness landscape. To facilitate this, it is vital that stakeholders work together and are aligned in their aims and objectives. While COAD can work to align initiatives, stakeholders across Abu Dhabi will have a key role their implementation and contribution to improving competitiveness.

Going forward, the goal is for this report to be published biennially to track Abu Dhabi’s ongoing improvements and progress towards enhancing competitiveness. This will include updates on new public and private sector initiatives as well as the outcome of the specific challenges and recommendations currently identified. As more data becomes available for Abu Dhabi and its sub-regions, the report can provide additional disaggregated competitiveness intelligence and analysis to better serve the needs of COAD stakeholders.

This first report paves the way for an informed discussion about regional competitiveness in Abu Dhabi, with the hopes that these efforts will lead to an improved environment for the people, businesses, and regions of the Emirate.

Key objectives going forward

1. Update the model and report every other year to track the Emirate’s progress, successes and emerging challenges in competitiveness
2. Enhance data collection efforts for more robust intelligence and reporting on competitiveness issues
3. Work with stakeholders in both the public and private sector to ensure that key challenges are being addressed
The model provides a logical framework through which to examine the factors that are driving regional competitiveness in Abu Dhabi. The main purpose of this model is to understand the relationship between the principal determinants of competitiveness and integrate them to explain what accounts for the competitiveness of a region. Inputs are the types of capital needed to generate economic outputs of competitiveness. Outputs measure the performance of the region. Over time, these outputs form the basis for long-term competitiveness outcomes, such as rising incomes and a high standard of living which shape the overall competitiveness of a region.

Since competitiveness is a “self-reinforcing process”, current inputs of competitiveness produce future outputs of competitiveness, which subsequently become inputs for a new cycle of the competitiveness process.

Key Determinants Competitiveness

<table>
<thead>
<tr>
<th>Competitiveness Inputs</th>
<th>Competitiveness Outputs</th>
<th>Competitiveness Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Capital</td>
<td>GDP growth</td>
<td>Long-term improvements in living standards</td>
</tr>
<tr>
<td>Physical Capital</td>
<td>Trade volume</td>
<td></td>
</tr>
<tr>
<td>Financial Capital</td>
<td>New firm generation</td>
<td></td>
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<tr>
<td></td>
<td>Productivity</td>
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</table>

The Model – Regional Competitiveness Index (RCI) and Sub-Regional Index - Rationale

The foundational Abu Dhabi Regional and Sub-Regional Competitiveness Index consists of three building blocks which constitute the core elements of competitiveness. These three building blocks, Competitiveness Inputs, Competitiveness Outputs and Competitiveness Outcomes, contain socio-economic variables that measure regional competitiveness. These blocks are framed by a set of Competitiveness Enablers, which are the key conditions that affect the business environment and drive the competitiveness of an economy.

Competitiveness Inputs

Inputs are factors of production that produce goods and services and drive economic activity. Inputs are not an end to themselves, they provide the means to achieve outputs and long-term outcomes. Measured on their own, inputs provide limited useful insights on the economic performance of a country unless they are linked to an analysis of outputs.

Competitiveness Inputs consist of human, physical and financial capital and are the necessary “feedstock” of economic growth.

Human Capital

Human capital measures the skills, knowledge, and competencies of an individual that enable them to generate economic wealth. Extensive global research reveals a strong positive correlation between human capital advances and economic growth. OECD countries have invested heavily in education and training, resulting in significant improvements in the skill and education levels of their workforces. This has resulted in rising GDP growth, increased labor productivity, increased knowledge output in the form of patents and new inventions, and a growing number of enterprises.

Physical Capital

Physical capital includes natural resource endowments, machinery, and physical infrastructure such as transportation and ICT infrastructure. Major investments in IT, software and communications equipment have resulted in rising labor productivity throughout the most competitive regions, which has subsequently resulted in higher growth levels and increased competitiveness.

Financial Capital

Financial capital measures the investment and accessibility of money that is put to economic use. It consists of business loans, investments, risk capital, specialized finance and other sources of funding to promote innovation and economic growth in an economy. If such funds are not available, innovation and investment can be hampered. For example, data on R&D spending in OECD countries reveals a strong correlation with productivity levels.

Competitiveness Outputs

Outputs are the measures of economic activity and performance (i.e., rising GDP, growth in trade and improvements in factor productivity indicating the well-being of the economy). They result when inputs are put to economic use. Increasing knowledge output - such as patent registration and publication of journal articles - demonstrates that innovation is taking place, while new firm generation suggests a healthy entrepreneurial culture and robust markets.
Competitiveness Outcomes

Outcomes are the long-term results of competitiveness. They are defined by sustainably rising living standards that result from improvements in productivity. Rising living standards are associated with rising real incomes and decreasing unemployment levels over the long-term.

Competitiveness Enablers

Enablers are the conditions and factors that determine the perceived potential for competitiveness, by creating a favorable business environment for firms at the macro and micro-levels. Regions with a sound business enabling environment that facilitates economic development are likely to increase their competitive advantage by attracting investment, skills and talent. Illustrative examples include: effective rule of law which facilitates commercial activity; ease of doing business; government initiatives; and ultimately, the perceptions of businesses and individuals in a particular region.

Disclaimer

- This report has been prepared using information and data from sources listed throughout this report. This information is believed to be accurate at the time that this report was developed.
- Recommendations on improving the competitiveness of the Abu Dhabi Emirate are based on findings from extensive desktop research as well as stakeholder workshops and individual interviews conducted with various ADDED – COAD stakeholders.
- Proxies were used for indicators where data was not readily available for Abu Dhabi, which involved complex calculations and assumptions.

Below are the assumptions and calculations of all proxies used in the RCI model:

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<tr>
<th>Indicator</th>
<th>Calculation</th>
<th>Assumption</th>
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<td>Broadband access per 1,000 population</td>
<td>(Total UAE broadband) x (ratio of Abu Dhabi GDP) / Abu Dhabi population</td>
<td>Function of the share of Abu Dhabi’s GDP</td>
</tr>
<tr>
<td>Per capita private equity investment</td>
<td>(Total private equity investment in UAE) x (ratio of financial firms in Abu Dhabi) / Abu Dhabi population</td>
<td>Function of the distribution of financial firms in Abu Dhabi</td>
</tr>
<tr>
<td>No. Of patents registered per one million inhabitants</td>
<td>(Total patents in UAE x (ratio of universities in Abu Dhabi) / Abu Dhabi population</td>
<td>Function of the distribution of universities in Abu Dhabi</td>
</tr>
<tr>
<td>Regional gdp (AED) – population based</td>
<td>(Total Abu Dhabi GDP) x (ratio of regional population)</td>
<td>Function of the ratio of each regions population</td>
</tr>
<tr>
<td>Labor productivity (AED) – population based</td>
<td>(Population -based GDP) / employment</td>
<td>Function of the ratio of each regions population</td>
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### Abu Dhabi Competitiveness Report

Improving the Competitiveness of the Emirate of Abu Dhabi

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**Indicator** | **Definition**
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**Annual average gross earnings** | Gross annual income is the amount of money that someone receives from his/her rendered services or sold goods before any annual deductions, such as taxes are taken out. This is an indicator of the standard of living in a country since high incomes are associated with high standards of living.

**Broadband access per 1,000 population** | Number of inhabitants who have broadband access per 1,000 of the total population.

**Exports** | Exports are the sales of goods or services made to another country.

**Female labor force participation** | Female labor force participation rate is the number of females ages 15 and older that is economically active: all females who supply labor for the production of goods and services during a specified period.

**Gross domestic product** | The gross domestic product (GDP) is a measure of a country’s overall economic output. It is the market value of all final goods and services made within the borders of a country in a year. High per capita GDP is an indicator of high standards of living.

**Gross fixed capital formation** | Gross fixed capital formation includes land improvements; plant, machinery, and equipment purchases; and the construction of roads, railways.

**Gross value added** | A productivity metric that measures the difference between output and intermediate consumption. Gross value added provides a dollar value for the amount of goods and services that have been produced, less the cost of all inputs and raw materials that are directly attributable to that production.

**New firm generation** | New businesses registered in the calendar year as a ratio of population.

**Number of managers per 1,000 population** | Measures level of skilled workforce.

**Number of patents per 1,000,000 population** | A government authority to an individual or organization conferring a right or title, esp. the sole right to make, use, or sell some invention. In this case it’s calculated per 1,000,000 population of a country.

**Per capita foreign direct investment** | FDI is the movement of capital across national frontiers in a manner that grants the investor control over the acquired asset. Firms that use FDI are known as multinational enterprises.

**Per capita private equity investment** | Money invested in private firms as a proportion of population – indicates access to finance, which affects the competitiveness of firms.

**Percentage of population with university degrees** | All the inhabitants of a particular town, area, or country with a university degree, indicator of skill level.

**Unemployment rate** | The percentage of the work force that is unemployed at any given date.

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**Regional Benchmark Data Sources:**

<table>
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<tr>
<th>Region</th>
<th>Broadband Access Per 1,000 Population</th>
<th>No. of Managers Per 1,000 Population</th>
<th>Per Capita Private Equity</th>
<th>Foreign Direct Investment Per Capita</th>
<th>New Firm Generation per 1 Million Population</th>
<th>GDP Implicit And Exclusion Of Oil &amp; Gas Sectors</th>
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