THE ZAIN 2016 THOUGHT LEADERSHIP REPORT

BRINGING THE FUTURE CLOSER WITH INNOVATION.

PURSUING INNOVATION AS A MEANS TO OVERCOME CHALLENGES IN THE MENA REGION

TABLE OF CONTENTS

published by Zain Group – Corporate Sustainability and Social Responsibility

e: csr@zain.com

INTRODUCTION

People have always had an innate tendency to seek new and more effective solutions to the challenges that they face. This instinct has served as a key driver for progress over time, and continues to do so today, where innovation is a major catalyst for the current Information Revolution that is shaping global trends. Through innovation, people can significantly boost productivity, improve efficiency and promote general welfare.
In the Middle East and North Africa (MENA) region, the urgency to address daunting challenges such as unemployment, economic stagnancy, social exclusion, and human displacement makes fostering innovation more relevant than ever.

The region is currently experiencing a period of severe socioeconomic pressure. Slow economic growth coupled with fast-growing populations without the needed skills, are contributing to a crisis of unemployment. Moreover, devastating ongoing conflicts are leaving millions of people displaced and vulnerable. These and other problematic socioeconomic and environmental circumstances in the region make it necessary for stakeholders to come together to seek new and creative solutions that can produce value and bring about meaningful change. The relevance of innovation and knowledge creation to offer opportunities for the region cannot be overstated. Knowledge-based employment, for example, could potentially be the source for 30% of the total number of jobs needed over the next decade.[1] By making knowledge and technology accessible to the masses via information and communications technology (ICT), we can collectively deliver more sustainable and inclusive solutions.

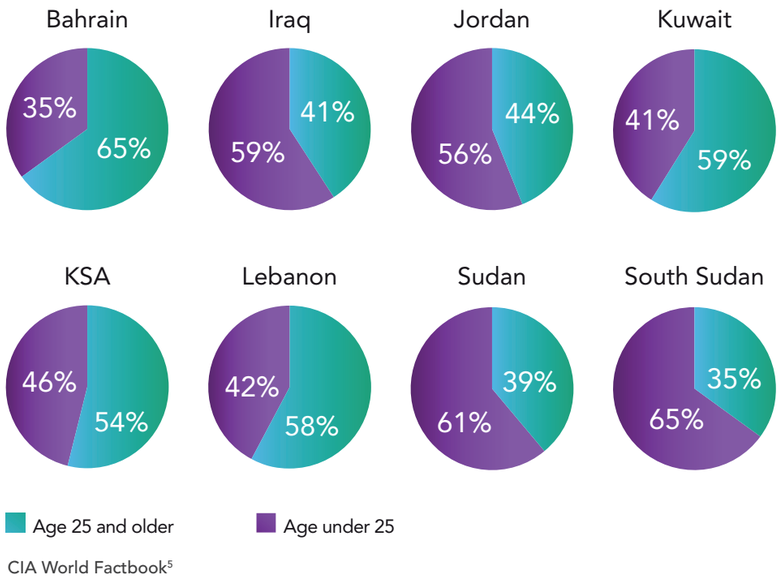
The purpose of this study is to illustrate the indispensable role of innovation in order to achieve sustainable development in a modern, knowledge-based economy. In describing this role, the study emphasizes the unique circumstances of the MENA region, and explores the ways in which innovation can offer solutions to region-specific deficits. At Zain, we have always pursued a meaningful relationship with our communities by identifying ways to achieve organizational success while enabling the prosperity of our surroundings.
As a leading mobile operator transitioning towards a digital lifestyle provider – spearheaded by our Zain Digital Frontier and Innovation (ZDFI) business unit – we are ideally positioned to leverage mobile connectivity and communication solutions for the purpose of creating value for society and offering pathways for development. Our 2016 Thought Leadership Report provides insights about the unique social, economic and environmental challenges facing our region, and explores the potential for stakeholders to collectively leverage innovation in order to offer substantial and relevant solutions.

THE REGION'S MOST PRESSING DEFICITS

A YOUNG POPULATION IN NEED OF JOBS

The population of the MENA region is young and growing fast. The youth bulge that is currently being experienced is unprecedented, and is heightening the urgency for more jobs as an increasing number of youth continue to enter the labor market (see charts below). Few countries in the region have been able to successfully meet the challenge of generating enough employment to meet this demand. At 27%, the youth unemployment rate in MENA is the highest in the world, and nearly twice the global average.[2] In order for societies to generate enough jobs to meet the demands of the region's ballooning labor force, there needs to be a sustained level of high economic growth. Unfortunately, regional economic growth is falling short of what is necessary. While developing countries around the world averaged an economic growth rate of 7.2% between the year 2000 and 2009, the MENA region only averaged 4%.[3] Educated youth are now clamoring for the limited employment opportunities that will utilize their various acquired skills. Worsening the situation is the mismatch between the skills available amongst the region's educated labor force and the jobs that are accessible to them, thus creating a situation of underemployment.[4] Many Arab youths now find themselves settling for jobs that they are over-qualified for, earning incomes below their full potential. Because the region is not economically diversified – the resource-rich Gulf States remain heavily reliant on oil exports while other countries are similarly dependent on sources of income such as agriculture and remittances from citizens working abroad – as such, there are limited economic avenues for growth.

PERCENTAGE OF POPULATION UNDER AGE 25 IN ZAIN'S OPERATING COUNTRIES - 2015V



CIA World Factbook[5]

On the global stage, ongoing trends such as globalization and the rapid diffusion of technology have ushered in a period of unprecedented competition. Technological advances in sectors such as ICT are enabling the free flow of information, ideas and knowledge around the world, which are rapidly diminishing traditional protective barriers that once shielded local markets.[6] Unless there is a fundamental shift in the MENA's economic foundation, an increasing number of people will continue to seek jobs in an environment where they are increasingly scarce. A transition towards an economy based on knowledge and value-creation would enable the region to participate in the Information Age and compete globally, which would provide more sustainable and non-exportable employment opportunities for its people.

AN ONGOING STRUGGLE WITH EXCLUSION AND INEQUALITY

The limited growth experienced by this region has not been evenly distributed, leaving large sections of the population excluded to the human development gains that have been made over the years. Rural populations, for example, are not receiving the same exposure to health and education as their urban counterparts. Additionally, the exclusion of women from the labor force continues to be a significant challenge. With only a quarter of working-age women actively participating in the labor force, their exclusion represents a substantial missed opportunity as an untapped human capital resource.[7] Furthermore, poverty continues to plague the region's potential for growth. Large sections of society remain at the bottom of the socio-economic pyramid, deprived of pathways to empower themselves and develop their capacities. Many remain unbanked, and cannot access basic social services necessary to further their human development.

THE DISPLACEMENT OF PEOPLE DUE TO CONFLICT

The MENA region remains mired in ongoing conflict, bringing immense strain and hardship on those that are impacted. Human displacement is one of the most urgent consequences of the conflicts taking place in countries such as Iraq and Syria, with millions of people being uprooted from their homes or fleeing from danger. In Iraq, for example, conflict between the national government and the Islamic State (IS) has resulted in the number of internally displaced people (IDPs) reaching as high as 4 million people.[8] The conflict in Syria has also led to a crisis in human displacement, with Syrian refugees in Jordan numbering around 630,000, and over 1 million in Lebanon.[9] The displacement of people is straining the very fabric of our communities, leaving families economically and socially vulnerable, and depriving millions of people access to basic needs such as food, shelter and medicine.

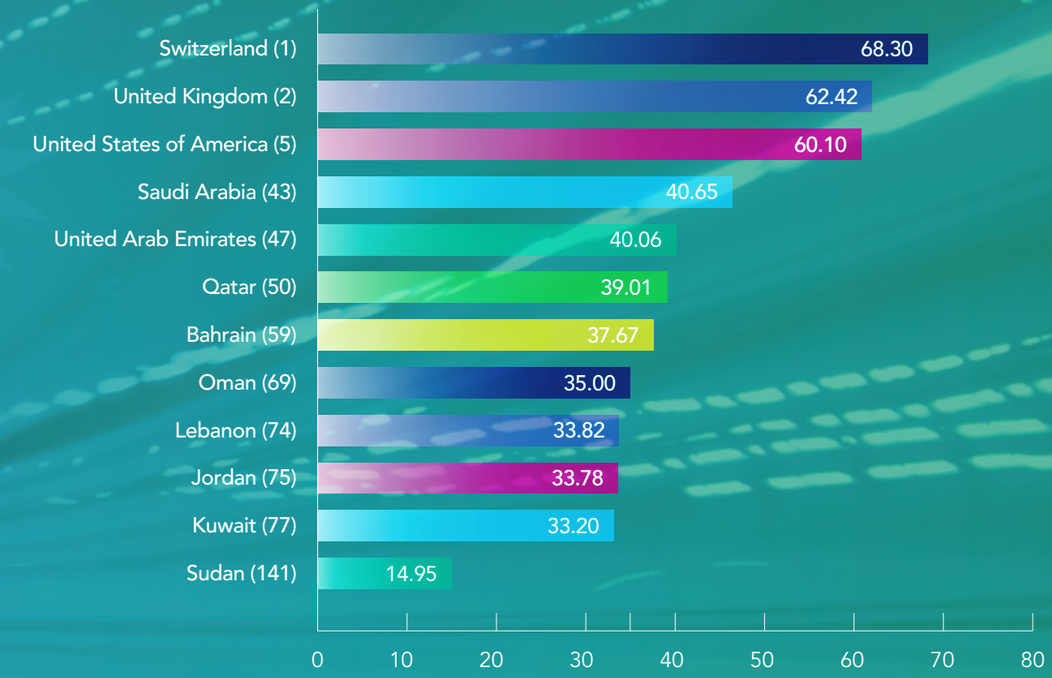
CLIMATE CHANGE AND THE VULNERABILITY OF THE POPULATION

Climate change presents a long-term, gradual challenge for the region to address. MENA countries are already amongst some of the driest, most water-scarce in the world.They are also some of the most vulnerable to the adverse effects of climate change, which scientists predict will result in increased drought and further desertification across the region.[10] These harmful impacts will result in a reduction in agricultural crop yields, not only damaging the livelihoods of farmers but also creating a situation of increased food insecurity for populations. As population growth continues, it is essential to explore new ways to improve efficiency while tackling the root causes of climate change and environmental degradation.

THE STATE OF INNOVATION IN MENA - AN INNOVATION DEFICIT

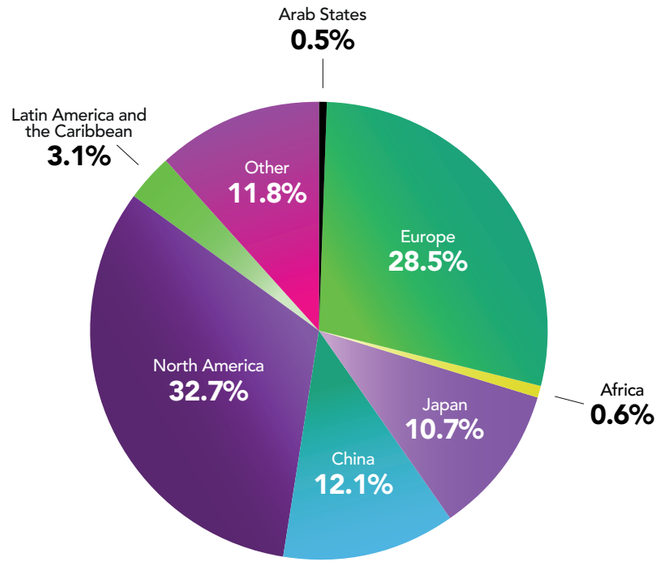
The state of innovation in the MENA region represents both a severe deficit at the present as well as an opportunity to achieve exponential development and progress in the future. Most countries in the region perform poorly in rankings that measure innovative capacity and its related indicators. This is generally due to an absence of the conditions and enablers necessary to foster innovation; namely insufficient educational quality, a shortage of R&D, ineffective governance and policy, and scarce entrepreneurial activity.

GLOBAL INNOVATION INDEX SCORES - 2015



"Global Innovation Index 2015"[11]

One reason for MENA's innovation lag is a shortage of investments in research and development (R&D) which is a key driver for innovation. To date, there are insufficient resources across the various countries, directed towards it to effectively push an innovation agenda. The chart below shows the difference in R&D spending as a percentage of GDP in Arab States **(0.5%)** as opposed to other regions such as Europe **(28.5%)** and North America **(32.7%)**. Typically in developed countries, a large portion **(40-60%)** of R&D spending originates from the private sector. This is not the case in Arab States, where the private sector contributes around **3%** of total R&D spending.[12]



R&D Expenditure as % of GDP – 2009. "Competitiveness of the ICT Sector in the Arab Region: Innovation and Investment Imperatives." ESCWA 2013[13]

Successful investments in innovation and technology are typically reflected by the number of patents produced. In this sense, the success of MENA countries in producing patents is indicative of their innovation lag. In 2013, Saudi Arabia filed 237 patents with the United States Patent and Trademark Office (USPTO), more than any other MENA country. The total number of patents regionally in 2013 was 403, and represents 0.6% of the 277,835 patents that were filed globally.[14]

SELECTION OF UTILITY PATENTS ISSUED IN 2013	
USA	133,593
Japan	51,919
Germany	15,498
Suadi Arabia	237
Kuwait	84
Egypt	34
United Arab Emirates	18
Lebanon	7
Jordan	6
Oman	3
Bahrain	2
Iraq	0
Sudan	0

Arab Knowledge Economy Report 2014

As ICT becomes more universally accessible through advances in mobile connectivity, opportunities are emerging for stakeholders in the region to collectively develop solutions to our most prevalent challenges. By empowering people with the right tools while developing a favorable ecosystem for innovation to take hold, the region can begin to pull itself from the brink and move towards a more favorable and sustainable growth trajectory.

DEVELOPMENT SOLUTIONS THROUGH INNOVATION

There is an urgent need to implement holistic, sustainable solutions to the region's most pressing deficits. Innovation offers a pathway to achieving this goal, and can set the stage for a region-wide socioeconomic transformation. Benefits derived from innovation tend to have a 'multiplier effect' on society, in the sense that those benefits often permeate across society beyond just the innovator and the consumer, and enable growth on a national or even regional level. Hence, the advantages of achieving greater innovative capacity can benefit multiple stakeholders in society including the private sector, which to date has remained largely absent from region's innovation agenda. For example, an innovative service that leverages mobile connectivity to offer affordable education or vocational solutions to marginalized or inaccessible segments of the community – such as the rural or displaced – would upgrade society's human capital pool in the medium-term. A higher caliber of local talent in turn produces positive externalities for the private sector and society in general.

Coupling innovation with the accessibility provided by ICT creates significant opportunities for empowerment, growth and human development. The MENA faces a set of challenges that are unique, and hence, there is a need to develop solutions specifically tailored to address them. If leveraged effectively, new solutions can help support entrepreneurial growth, job-seeking, education, in addition to delivering access to vital information and services to the bottom of the pyramid. These solutions inevitably provide returns to multiple stakeholders including national governments, civil society, the private sector, and the general public.

Consequently, the question that should be asked is:

> "How can stakeholders in the region come together to further society's innovative capacity as a means to drive sustainable, inclusive growth while promoting human development?"

INVESTMENT IN EDUCATION AND HUMAN CAPITAL

In previous centuries, the MENA region led the world in areas of higher learning and knowledge creation. The world's two oldest universities are located in the region. The University of Al-Karaouine in Morocco and the Al Azhar University in Egypt, founded between the 7th and 8th century, are still running to date.[15] These and similar institutions helped to establish a part of the world that was globally dominant in areas of science and technology. Over time, the prominence of educational institutions in the region diminished, and today the 2014-2015 Times Higher Education World University Rankings lists the University of Marrakech Cadi Ayyad in Morocco as the only Arab institution in their top 400 universities; and the 2014 Academic Ranking of World Universities lists five Arab universities within its global top 500.[16]

While basic educational requirements such as literacy and primary education are generally fulfilled in MENA, areas of higher education still do not adequately prepare the region's youth to undertake innovative activities conducive to transitioning towards a knowledge-based economy. Experts within the education industry note that "increased attention towards research and innovation at education institutions [in the region] is required."[17] Furthermore, education systems in the region are skewed towards humanities and social sciences, and largely neglect business, scientific or technical fields that link more favorably to innovation and knowledge creation. This has created a skills mismatch between what the job market requires and what the majority of the local labor force can provide.[18] Needed is the incorporation of ICT in educational settings in a way that strengthens the teachers' ability to educate while simultaneously enhancing the learning experience of students. This can be achieved by the development of 'smart schools' offering a more adaptable form of education to students, by using multiple technological mediums to educate students more effectively while at the same time exposing them to information and technology that ultimately contributes to their innovative capacity. A human capital pool that is more adequately prepared to compete globally through knowledge and technology will be a cornerstone of the region's pursuit of sustainable development.

SETTING THE FOUNDATIONS TOWARDS BUILDING THE NATIONAL INNOVATION CAPACITY

CASE STUDY: INCORPORATING ICT IN JORDAN'S PUBLIC SCHOOLING SYSTEM – THE ZAIN JORDAN SMART SCHOOLS PROJECT

In September 2015, Zain Jordan launched the pilot phase of its Smart Schools Project, an initiative aimed at incorporating ICT into the educational formats of schools around the country. The program, developed in collaboration with Integrated Technology Group (ITG) and the Modern Scientific and Electronics Company (MOSECO), digitizes school curriculums and utilizes various elements of ICT into teaching and learning methods. The pilot phase of the program involves three public schools impacting more than 830 students. Through the project, students and teachers are ensured access to connectivity, and are provided with necessary technological learning tools such as tablets. The program also oversees the training of the teachers, ensuring their ability to guide students towards seeking online solutions. This generates a two-fold impact, as the potential for teachers to benefit the wider community exponentially grows through their development of ICT skills. While directly supporting Jordan's National Innovation Strategy, the program also benefits Zain Jordan, which is ideally placed given its capabilities to leverage technology and connectivity to achieve value-added results. The Smart Schools concept is widely implemented in recent years, as policymakers recognize the long-term benefits of familiarizing young students with the application of modern technology and exposing them to the tangible benefits ICT that can be produced through ICT.

CASE STUDY: MAKING EDUCATION MORE EFFECTIVE THROUGH THE TAALEB E-LEARNING PROJECT, KUWAIT'S FIRST ONLINE EDUCATION PORTAL

In 2012, Zain Kuwait partnered with the Ministry of Education to establish the Taaleb E-Learning Project, an online education portal that links students, parents and teachers through a digital platform to improve communication between the parties and make educational process more effective. The project has grown steadily each year, as a greater number of public schools adopt the platform. In **2014**, the number of Taaleb users numbered just over **500,000**. By **2015**, that number had grown to more than **651,000**, including more than **323,000** students, **277,000** parents and **51,000** teachers. The incorporation of ICT in the educational process through Taaleb has added tangible value for students, parents and teachers, and is helping familiarize the country's youth with the varied applications of modern technology.

THE BENEFITS OF THE TAALEB E-LEARNING PROGRAM

FOR STUDENTS

a. Gives them the ability to communicate and participate in online forums with their teachers, and share their opinions with them.

b. Gives them access to electronic teaching aids.

c. Allows them to view homework, tests, lesson plans, attendance and grades online.

FOR TEACHERS

a. Provides them with a platform to share their experiences with one another and with their schools.

b. Gives them the ability to distribute assignments electronically.

c. Provides them with a platform to upload supplementary learning materials such as videos and other multimedia sources.

d. Provides them with a channel to directly communicate with parents.

FOR SCHOOLS

a. Providing a platform for collective dialogue between faculty, administrators and parents.

b. Allowing them to collect accurate statistics such as student and teacher performance.

c. Saving costs and time over the long-term by streamlining administrative processes.

FOR PARENTS

a. Providing them access to view assignments, exams, grades, and the school schedule of events.

b. Allowing them to interact with school teachers and administrators more effictively.

ENABLING THE ENTREPRENEURIAL ECOSYSTEM

"Entrepreneurs are the engine of national innovation systems."[19] While more established organizations tend to devote the majority of their resources to their current business and are less inclined to take business risks, it is often the leaner, more responsive entrepreneurs that are able to identify and capitalize on new and creative ways to fulfill the needs of the market and gain competitive advantages. In order to foster innovation in the region, it is important to develop a viable startup ecosystem, with the mechanisms in place to encourage, support, fund, and cultivate entrepreneurial projects. The MENA region is currently lagging behind the rest of the world in providing public support systems for entrepreneurs. Recent studies revealed that only 10% of entrepreneurs in the region tapped into government programs to fund their startup projects. In addition, MENA countries average around 0.9 startups per 1,000 people, which is markedly behind other developing countries such as Brazil (2.9), Kenya (1.8) and Malaysia (2.4).[20]

Policy reforms that ease the process for establishing businesses have a significant impact in enabling a more vigorous startup ecosystem. Reducing or eliminating minimum capital requirements can help achieve this aim. Many countries in the region have already made significant reductions – in Jordan, for example, the minimum capital requirement was reduced from $14,000 in 2006 to less than $2 in 2011 – yet others, such as Kuwait and Bahrain, still have restrictively high requirements.[21] By incorporating ICT into the startup registration process s through integrated online portals that serve as 'one-stop shops' for establishing a business, countries in the region can eliminate much of the inefficiencies and bureaucracy that discourage entrepreneurs.

A further hurdle for aspiring entrepreneurs is the pursuit of funding. In ideal cases, entrepreneurs are exposed to a wide network of funding opportunities that include public and private sector involvement. In the region; however, these networks are less mature, and venture capital as well as private sector funding is generally more difficult to exploit than in other regions. What MENA countries need is a multi-stakeholder approach geared towards providing entrepreneurs with 'smart capital' – funding that is accompanied with access to expert guidance to help direct and cultivate early-stage businesses.[22]

Circular 331 in Lebanon – Example of State-Guided Approach to Enable Tech Startups

In 2013, the Central Bank of Lebanon (BDL) developed a policy to encourage the startup ecosystem in the country and facilitate a national transition towards a knowledge-based economy. Circular No. 331, issued by the BDL, incentivizes the investment by local commercial banks in innovative locally-run startups that will contribute to the knowledge-based economy and job creation.[23] Through the Circular, the BDL is indirectly allocating a total of $400 million USD for commercial banks to invest in promising entrepreneurial projects that fit the required profile. "The BDL will be thus urging banks to invest in this area, bearing the greater part of the burden and motivating commercial banks to diversify their investments and distribute their risks."[24] Going one step further, the BDL also provides, on a case by case basis, 100% backing for investments made in startup training programs and accelerators, which helps in developing the ecosystem fundamental for entrepreneurial activity.[25] In compliance with Circular 331, several commercial banks have invested heavily in venture capital funds such as Berytech2 and the Lebanon Impact Fund that are dedicated to ICT-related startups, each with commitments exceeding $50 million.[26] By November 2015, the BDL had approved $280 million of investment in startup ventures, $20 million of which was finalized and distributed through a total of ten investments.[27]

CASE STUDY: CULTIVATING AND FUNDING STARTUPS

THE CORPORATE ENTREPRENEURSHIP DIVISION – ZAIN INNOVATION CAMPUS AND ZAIN AL MUBADARA IN JORDAN

In 2013, Zain Jordan established the Corporate Entrepreneurship Responsibility Division (CER), an independent business unit dedicated solely for the purpose of building and empowering a more vibrant entrepreneurial ecosystem in Jordan. Since its inception, the CER's role was to establish partnerships that would strengthen the ecosystem and create a series of events, activities and workshops that are meant to enable entrepreneurs, build capacity, expose them to success stories and engage them with networks, mentors, potential partners and experiences. Its role also focuses on providing them with opportunities to take their ideas into the next level of startups and then to scale.

Amongst the many roles that the CER currently plays are:

1) The Zain Innovation Campus (ZINC); a physical space intended to serve as an entrepreneurship and innovation hub that directly engages and nurtures the national startup and innovation ecosystem, and

2) Zain Al Mubadara; an idea-stage fund and competition targeting Jordanian youth pursuing the implementation of their startup concepts.

Since its establishment, the CER has helped establish businesses, create jobs, attract experts and investors from around the world, and cultivate a more viable startup ecosystem in the country from the grassroots.

The Zain Innovation Campus

ZINC offers a platform in Jordan for entrepreneurs and interested youth to connect, meet, work, interact and engage with one another. ZINC also links Jordanian entrepreneurs inside the country with startups, mentors and investors around the world.

ZINC attendees gain the following:

- Free membership to attend all activities along with free membership Wto the Innovation Campus.
- Access to a global pool of leading mentors and experts through workshops, forums and lectures.
- Access to the latest in ICT technology; including high speed connectivity, 3D printing, teleconferencing, and advanced gaming software.
- Access to co-working space, meeting rooms, telepresence and teleconferencing technologies.
- The opportunity to network with and pitch to investors and Zain strategic partners from around the world.

Since its inception, ZINC has evolved into a nationally recognized entrepreneurial hub. It has attracted notable visitors starting with His Majesty King Abdullah II of Jordan and Her Majesty Queen Rania Al Abdullah of Jordan, HRH Prince Charles, the Prince of Wales, and representatives from Google, Yahoo, Microsoft, NASA's Jet Propulsion Laboratory, the regional e-commerce powerhouse Souq, along with Ambassadors and international investors such as 500 Startups and Eureeca. A significant aspect of ZINC is the inclusive nature in which it offers Jordanian youth the opportunities to learn and develop. By providing free and open membership to attend events, ZINC is accessible to all Jordanians, including those at the bottom of the pyramid that typically have difficulty attending educational forums and events. The events organized through ZINC in 2015 attracted more than 25,000 attendees.

Zain Jordan also established a host of strategic partnerships through ZINC. These include:

- A partnership with the Jordanian Government to develop smart government solutions and mobile apps.
- An agreement with regional crowdfunding platforms such as Zoomaal and Eureeca to facilitate crowdfunding opportunities for Jordanian startups.
- A partnership with the venture capital firm 500 Startups to collaboratively invest $2 million USD in local startups.

Zain Al Mubadara

Applicants that are shortlisted through the Zain Al Mubadara competition can expect to receive seed funding and incubation support for their business concepts. In its first phase, the competition attracted 170 applications. Through a screening process that involved pitching to several judging panels, 12 overall winners were selected and received funding. The first and second place winners received 20k and 10k Jordanian Dinars respectively (approximately $28k and $14k USD). In addition to receiving seed money, winners of Zain Al Mubadara are adopted by Zain Jordan – with the organization supporting and nurturing the implementation of each winning business concept.

IMPACTS OF THE ZAIN INNOVATION CAMPUS AND ZAIN AL MUBADARA IN JORDAN

12	Startup businesses established through Zain Al Mubadara
6	Jobs created (a 290% increase year-on-year)
+25,000	Attendees and participants of ZINC workshops, lectures, forums, etc.
59,000 JOD ($83,000 USD)	Seed funding provided to enable startup projects

EXAMPLES OF STARTUPS THAT ARE FUNDED AND SUPPORTED BY THE CER

3DMENA SOCIAL INNOVATION

A non-profit company established with the mission of employing advanced, innovative and disruptive technology to improve human rights fulfillment for the displaced and their host communities. 3Dmena leverages technology to provide employment and growth opportunities for the displaced.

FINGERS HEAR SOUND

A prototype glove that enables the hearing impaired to engage in two-way verbal communication without the use of sign language. The glove converts verbal speech into pulses for the hearing impaired to understand, and allows them to respond by typing messages through the glove which are then converted to verbal speech.

SUSTAINABILITY NASEEJ

An online platform providing a one-stop shop for sustainability resource-matching, collaboration and capacity-development in the region. The platform offers crowdfunding services as well as opportunities to develop partnerships in order to implement sustainability-related projects.

THE ZAIN GREAT IDEA PROGRAM IN KUWAIT

The Zain Great Idea (ZGI) Program was developed by Zain Kuwait in collaboration with the local startup accelerator firm Brilliant Lab. ZGI was established with the goal of nurturing potentially viable startups and educating motivated Kuwaiti entrepreneurs in various subjects related to establishing a business. Spanning a period of 6-9 months, the program addresses Kuwait's challenge of encouraging greater private sector involvement amongst nationals, particularly in knowledge-driven, technical fields.
ZGI is an equal opportunity initiative, in the sense that it offers Kuwaiti youth from across the socioeconomic spectrum the opportunity to participate in the competition and be judged solely on the basis of their startup concept. The aim of the program is to help establish local startup businesses that are sustainable and will support Kuwait's national agenda of encouraging entrepreneurship and economic diversification.

The ZGI Program is comprised of four major phases:

1- Apply and qualify for the ZGI Program

2- Attend the ZGI Bootcamp: The ZGI Bootcamp is a 3-week intensive workshop facilitated by globally renowned institutions including Harvard, Stanford, IE Business School and the MIT Enterprise Forum. At the Bootcamp, participants are exposed to a variety of courses designed to strengthen entrepreneurial capabilities such as:

- Financial Management
- Brand Management
- Marketing
- Negotiation Skills
- Venture Capital Funding
- Human Resource Operations
- Business Model Canvas Creation

3- Qualify for the ZGI Accelerator Program and Mind the Bridge:
In this phase, participants present their project proposals to a committee of industry experts, where 10-15 projects are shortlisted. Selected entrepreneurs then qualify to attend the Mind the Bridge Foundation, a technology startup school in Silicon Valley, San Francisco. As part of the Accelerator Program, qualified participants undertake a host of mentorship activities, such as company visits to Google and LinkedIn.

4- Attend Zain Demo Day:
Following the Accelerator Program, ZGI participants attend the Zain Demo Day, an event where participants pitch their business plans to potential investors.

Zain Kuwait's latest round of ZGI drew more than one 100 applicants. From those, a total of 12 were selected for phases 3 and 4. The projects selected all offered knowledge-based digital solutions that cater to unique market needs. Successful projects from previous years of the ZGI Program resulted in the establishment of 14 sustainable businesses that are currently in operation in Kuwait.

CASE STUDY: FURTHERING THE INNOVATION AGENDA ON A REGIONAL LEVEL – ZAIN'S PARTNERSHIP WITH THE MIT ENTERPRISE FORUM (MITEF) PAN ARAB STARTUP COMPETITION

In 2015, Zain began a three-year partnership with the MITEF Pan Arab Startup Competition and Abdul Latif Al Jameel Community Initiatives in order to enable and assist aspiring entrepreneurs from across the region convert their startup concepts into viable businesses. Contestants entering the competition are provided with opportunities to learn from industry experts and gain exposure to potential investors.

Through its partnership, Zain leverages its vast social media reach to raise awareness about the competition throughout its operating markets. This resulted in substantial growth in the number of applicants in countries such as Iraq and Sudan. The competition has grown steadily over eight years, and in 2015 it received 4,275 individual and team applications – representing a record participation of over 12,000 entrepreneurs and an increase of more than 12% from the previous year – from 21 Arab countries. Contestants are judged based on the quality of their ideas, their potential for success and their value to society. This year, winners of the competition shared total prize money amounting to $135,000 USD.

IMPACTS OF THE MITEF PAN ARAB STARTUP COMPETITION

Since its establishment, the competition has resulted in:

- THE ESTABLISHMENT OF MORE THAN **260** KNOWLEDGE BASED AND TECHNOLOGY-DRIVEN STARTUPS
- THE GENERATION OF **1,860** JOBS THROUGH PROJECTS IMPLEMENTED BY THE COMPETITION'S ALUMNI
- THE DELIVERY OF EXPERT TRAINING TO MORE THAN **1,600** REGIONALLY-BASED ENTREPRENEURS
- THE DISTRIBUTION OF **$550,000 USD** IN SEED FUNDING TO COMPETITION WINNERS

ADDRESSING MARGINALIZED SECTIONS OF THE COMMUNITY THROUGH ICT

ICT forms the backbone of the innovative potential of individuals, companies and nation-states – serving as a key enabler for innovation to take hold and impact societies. The effective use of ICT universalizes access to knowledge and information, and has revolutionized communication the world over. In our region, communication mediums such as social media that were made possible through ICT has brought transformative impacts on society by enabling youth to share ideas and mobilize in unprecedented ways. The popularity of social media in the region is currently amongst the highest in the world. In Saudi Arabia, for example, 82% of the population is active on social media, and the country has the world's highest per capita usage of Twitter.[28] Social media is even revolutionizing the way people in the region search for jobs, with nearly half of all job seekers utilizing it as a primary tool to seek employment.[29]

Future innovations in ICTs in the realm of banking and finance have similar potential to transform the socio-economic landscape of the region. Access to financing for small and medium enterprises (SMEs) in the region are still undeveloped, a fact that is a major hindrance to entrepreneurial growth.[30] Expanding opportunities for micro-financing in MENA could potentially lead to a bonus in economic activity and lead to a much more inclusive startup ecosystem.

In addition, with as high as 80% of the region's population still unbanked, leveraging ICT through Mobile Banking services can go a long way in empowering people economically.[31] These services help generate economic activity for the poorest segments of the population. For segments such as the displaced, migrant laborers and women that face varying degrees of financial exclusion, Mobile Financial Services can improve access to health and education services, enable cheap, secure transfers of remittances, and reduce the prevalent gender gap for unbanked women.[32]

Generally speaking, m-Solutions offer opportunities for people in the region to access education, health and employment services on a broad scale like never before. While the availability of such services varies between countries within MENA, there is no denying the need for such solutions on a region-wide basis.

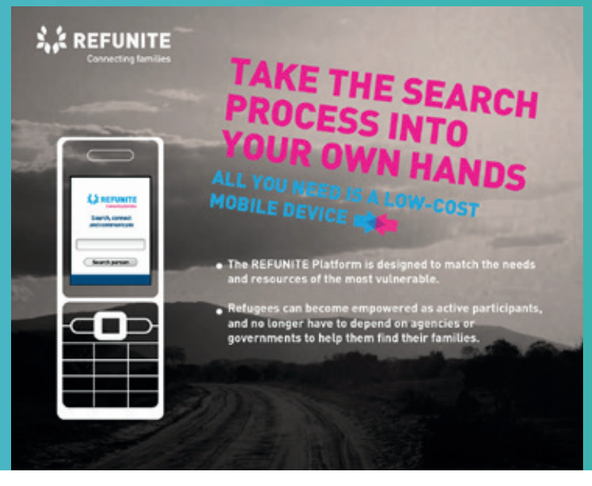
CASE STUDY: LINKING INNOVATION AND ICT – TOUCH LEBANON DEVELOPS THE LIGHT A CANDLE APPLICATION

In 2015, Touch in Lebanon, managed by Zain, developed an app in collaboration with the Children Cancer Center in Lebanon (CCCL) aimed at enabling people to easily donate money towards assisting children with cancer. Over the past decade, recorded cases of cancer in Lebanon have increased steadily, growing as fast as 5% annually in recent years.[33] It is in this context that a multi-stakeholder approach was undertaken to improve the fundraising capabilities of the CCCL. The Light a Candle app enables smartphone users to donate money through the app directly to the CCCL by lighting a virtual candle in exchange for a donation. This effectively democratizes the fundraising process and empowers anyone with a smartphone to donate money directly to the CCCL regardless of their physical location.

Light a Candle illustrates a direct example of how an innovative ICT service can produce tangible benefits for society, beyond those that have produced the innovation. ICT enables both Touch and the CCCL to reach a far wider audience at a lower cost. Since being launched in 2015, the app has achieved notable success, with more than 770,000 individuals donating over $50,000 USD in an eight-month period; fully funding one child's annual treatment costs. In further support for the initiative, Touch even agreed to waive its revenue share from its customers' use of the app.

CASE STUDY: AN INNOVATIVE DIGITAL PLATFORM TO RECONNECT SEPARATED FAMILIES – THE FAMILY RECONNECTION PROJECT

In 2014, Zain partnered with Ericsson and REFUNITE with the purpose of addressing the plight of large number of displaced people within Zain's markets. The Family Reconnection Project was launched in Jordan and South Sudan as part of an effort to reconnect displaced people that were separated from their loved ones due to conflict.
Field analysis conducted by REFUNITE found that 80% of refugees encountered were searching for missing family members. In South Sudan, the number of internally displaced people is more than 1.6 million. To address this crisis, the partnership rolled out the Family Reconnection service, a mobile search tool through which displaced people can search, connect and communicate with their missing loved ones. The tool is innovative in its simplicity and intuitive use, and it requires only a basic handset to use. While still in the early stages of its launch in the two markets, its potential for the millions of displaced in residing in Zain's markets is immense.



INNOVATION AS A DRIVER OF CLEANER AND MORE EFFICIENT ENERGY SOLUTIONS

Many countries in the region are categorized by their heavy reliance on selling fossil fuels to support their economies. While the abundance of oil and gas has brought these countries enormous wealth over the years, there is an increasing need to implement solutions to diversify the energy mix and improve efficiency. The region's climate, particularly its abundant sunlight, offers a great opportunity to exploit solar energy solutions. Pursuing renewable energy can also offer an important pathway for regions to diversify economically. Some countries have started implementing strategies to specialize in certain aspects of renewable energy technology, such as Abu Dhabi's Masdar City project, a carbon-neutral city that is meant to serve as a space to cultivate clean energy solutions and position the country as a leader in the sector over the long term. Another example is Jordan's Shams Maan Solar Photovoltaic Project, a 52.5 megawatt project that will provide roughly 1% of Jordan's energy consumption upon completion. Launched in 2015, Shams is the region's largest solar project, and will contribute towards Jordan's ambitious target of sourcing 10% of its energy consumption from renewables by 2020.34 Such projects promote the development industries and technologies locally, and offer the potential to export the innovations globally.
As climate change persists and the world gathers pace towards a post-oil future; countries in the region can capitalize in the long term by supporting innovations in renewables. Furthermore, the region's climate has also led to some countries being amongst the highest carbon emitters per capita. By diversifying and improving efficiency, oil and gas-rich MENA countries are not only tackling the global issue of climate change, they are also reducing costs and – most importantly from an economic perspective – are freeing up more conventional energy for exports, increasing sources of revenue.

In addition, as the region continues to urbanize, the potential for Smart City technology to improve energy efficiency in the region is immense. Smart City innovations can potentially allow for the construction of greener buildings, and more efficient transportation, water supply and electricity supply systems. Technologies such as smart meters, for example, would improve energy efficiency while also reducing costs for consumers.

CASE STUDY: ZAIN'S PARTNERSHIP WITH NEXGEN GROUP AND THE PURSUIT OF SMART CITY SOLUTIONS

In 2015, Zain announced the start of a strategic collaboration with neXgen Group, a leading regional smart city advisory and consulting services provider, for the purpose of deploying smart city solutions across the region. The partnership is intended to position Zain as a major player in integrating smart city applications within the region. While still in its early stages, the partnership will enhance Zain's ability to provide solutions to governments and other stakeholders to achieve more inclusive and sustainable urban models. Smart city technology, such as the deployment of smart meters, can result in drastic improvements to energy efficiency, which in turn reduces pollution and carbon emissions. Similar technology can also improve savings and reduce waste for the consumption of resources such as water.
In addition, smart city solutions can improve the efficiency of transportation systems and urban mobility, which facilitates travel and makes it more efficient, while at the same time reducing resource consumption. Such technologies provide the potential for cities to enhance their environmental sustainability and achieve cost-saving. Smart city technology also offers significant gains in areas such as sanitation, security, safety, and the effectiveness of providing public services. Adapting these solutions to meet the needs of all social segments will offer improvements to the welfare of urban inhabitants on an inclusive basis, which in turn will stimulate socioeconomic development as a whole.

CASE STUDY: ZAIN'S STRATEGIC PARTNERSHIP WITH UBER

In 2015, Zain established a strategic partnership with Uber in an agreement that will provide Zain customers in several markets with preferential and discounted rates when using the Uber platform. Uber's innovative approach enables people to find a taxi, a private car or share a ride through the use of a mobile handset. Collaboration between Zain and Uber provides both parties with opportunities for growth, and can potentially improve the efficiency of transportation, particularly in urban centers. As transportation and urban mobility becomes more efficient, carbon emissions will decrease and the environmental performance of the city will improve. As part of the agreement, Zain also delivers exclusive offers to Uber partner drivers. Later stages will include the enabling of mobile payments for Uber services as well as the provision of Wi-Fi in vehicles for Zain customers. By cooperating to create value for customers, the collaboration between Zain and Uber can potentially expand market share for both parties. The partnership was recognized by the global research company, Ovum, as the most innovative service for November 2015 due to the vast opportunities for mutual gain that it provides.

CONCLUSION

Pursuing a holistic approach to driving innovation can deliver the economic, social and environmental solutions necessary for us to overcome our most formidable regional challenges. Stakeholders within the public and private sector must work around a unified innovation strategy that is designed to address distinct regional deficits in order to achieve sustainable results. Through the effective use of ICT and mobile connectivity, this strategy can lead to meaningful change on an inclusive basis, impacting segments of society that are typically marginalized and excluded.

By developing education and human capital, enabling entrepreneurship, furthering socioeconomic inclusion, empowerment, and promoting energy efficiency, the region can collectively embark on a transition towards a knowledge-based economy that can offer greater prosperity for its people. If multiple stakeholders collaborate to achieve this goal, the benefits will undoubtedly be shared across the entirety of society. An innovation-driven growth strategy is essential for decisively altering the status quo and putting the region firmly on a positive trajectory.

There is ample opportunity for stakeholders in the public and private sectors to come together and pool human, financial and technological resources in order to develop a viable innovation ecosystem. While the private sector can offer much of the necessary talent, the leadership role of governments is vital to promoting innovation on a comprehensive level. Government activities should include: 1) reforms within the education sector to align curriculums and infrastructure with the needs of the knowledge economy, 2) investments in infrastructure – particularly in sectors that drive innovation such as telecommunications, 3) targeted funding in scientific and technical R&D, and 4) the implementation of policies conducive to innovation and entrepreneurship such as reductions in bureaucracy, improvements to transparency and more effective intellectual property laws.

Zain's innovation agenda is still in its early stages, but it is shaped and guided by the notion of value creation for both the organization and for society at large. We continue to implement activities that strengthen our capacity to innovate through improved synergy and increased alignment across the organization's business functions and geographies. Our newly launched digital communication platform, Zainiac, will share progress of our innovation agenda to all employees across our operations in a bid to further integrate innovation within our corporate culture. When looking outward, especially given our significant regional challenges, it is important that we achieve our organizational goals while at the same time maintaining a purpose of driving socioeconomic and environmental change through responsive, adaptable and effective activities. Programs established by Zain over the years, such as ZINC and ZGI, are noticeably driving startup ecosystems in their respective countries, while Zain's partnership with MITEF is empowering more than 12,000 aspiring entrepreneurs every year to further their startup projects. Meanwhile, collaborative solutions such as the Family Reconnection Project are delivering gradual yet tangible relief opportunities for those most in need. Going forward, strategic partnerships with organizations such as Uber and neXgen will offer a path towards more connected and efficient urban environments. Innovation is a tool by which Zain can maintain its leadership position within its markets while also empowering our communities to achieve long-term, inclusive growth.

(1) The World Bank, the Center for Mediterranean Integration (CMI), the European Investment Bank (EIB), and the Islamic Educational, Scientific, and Cultural Organization (ISESCO). *Transforming Arab Economies.* 2013.
http://documents.worldbank.org/curated/en/2013/09/18538895/transforming-arab-economies-traveling-knowledge-innovation-road-vol-1-2; p 42

(2) Elyatt, Holly. "US Unemployment in rich Middle East a 'liability': WEF" CNBC News. (October 15, 2014):
http://www.cnbc.com/2014/10/15/youth-unemployment-in-rich-middle-east-a-liability-wef.html

(3) The World Bank, the Center for Mediterranean Integration (CMI), the European Investment Bank (EIB), and the Islamic Educational, Scientific, and Cultural Organization (ISESCO). Transforming Arab Economies. 2013.
http://documents.worldbank.org/curated/en/2013/09/18538895/transforming-arab-economies-traveling-knowledge-innovation-road-vol-1-2; p 12

(4) Aggour, Sara. "MENA has the highest unemployment rate" Daily News Egypt. (August 6, 2013):
http://www.dailynewsegypt.com/2013/08/06/mena-has-the-highest-unemployment-rate/

(5) 2015 estimates; Taken from CIA World Factbook:
https://www.cia.gov/library/publications/the-world-factbook/

(6) The World Bank, the Center for Mediterranean Integration (CMI), the European Investment Bank (EIB), and the Islamic Educational, Scientific, and Cultural Organization (ISESCO). Transforming Arab Economies. 2013.
http://documents.worldbank.org/curated/en/2013/09/18538895/transforming-arab-economies-traveling-knowledge-innovation-road-vol-1-2; p 3

(7) Ibid; p 15

(8) Internal Displacement Monitoring Centre. "Iraq IDP Figures Analysis: IDMC estimates that at least 4 million Iraqis were internally displaced as of 15 June 2015"
http://www.internal-displacement.org/middle-east-and-north-africa/iraq/figures-analysis

(9) United Nations High Council for Refugees. "Syria Regional Refugee Response: Inter-agency Information Sharing Portal" (last update: November 30, 2015) **http://data.unhcr.org/syrianrefugees/country.php?id=122**; and United Nations High Council for Refugees. "Syria Regional Refugee Response: Inter-agency Information Sharing Portal" (last update: December 17, 2015)
http://data.unhcr.org/syrianrefugees/country.php?id=107

(10) The World Bank. "Adaptation to Climate Change in the Middle East and North Africa Region"
http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/0,,contentMDK:21596766~pagePK:146736~piPK:146830~theSitePK:256299,00.html

(11) Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO). The Global Innovation Index 2015: Effective Innovation Policies for Development. Fontainebleau, Ithaca, and Geneva.
https://www.globalinnovationindex.org/userfiles/file/reportpdf/gii-full-report-2015-v6.pdf

(12) Eagar, Rick, Rajiv Nair and Nitin Veeresh. "Innovation for economic diversification – experience from the Middle East" Arthur D. Little. (February, 2011):
http://www.adlittle.com/downloads/tx_adlprism/ADL_Innovation_for_economic_diversification.pdf; p 53

(13) United Nations Economic and Social Commission for Western Asia (ESCWA). Competitiveness of the ICT Sector in the Arab Region: Innovation and Investment Imperatives. 2013.
http://www.escwa.org.lb/ipad/pubs.asp?PubID=1374; p 32

(14) Orient Planet and Madar Research and Development. Arab Knowledge Economy Report 2014.
http://www.univ-setif2.dz/images/PDF/act/akereport2014.pdf; pp 20, 23

(15) "Top 10 Oldest Universities in the World: Ancient Colleges" College Stats;
http://collegestats.org/2009/12/top-10-oldest-universities-in-the-world-ancient-colleges/

(16) "World University Rankings 2014-2015" Times Higher Education: World University Rankings.
https://www.timeshighereducation.co.uk/world-university-rankings/2015/world-ranking/#/;
and "Academic Ranking of World Universities 2014" Center for World-Class Universities of Shanghai Jiao Tong University.
http://www.shanghairanking.com/ARWU2014.html

(17) Alpen Capital. The GCC Education Industry. 2012.
http://www.alpencapital.com/downloads/GCC_Education_Industry_Report_July_2014.pdf; p 55

(18) United Nations Economic and Social Commission for Western Asia (ESCWA). Competitiveness of the ICT Sector in the Arab Region: Innovation and Investment Imperatives. 2013.
http://www.escwa.org.lb/ipad/pubs.asp?PubID=1374; p 10

(19) Ibid; p 22

(20) Abou Chanab, Louay, Bahjat El-Darwiche, Tarek El Zein, and Ramez Shehadi. Stimulating Innovation Building the Digital Advantage for MENA Countries. Booz and Company. 2011. pp 3, 5 and "New business density (new registrations per 1,000 people ages 15-64)" The World Bank. 2014.
http://data.worldbank.org/indicator/IC.BUS.NDNS.ZS

(21) Saltane, Valentina and Serna, Paula Garcia. "Why are minimum capital requirements a concern for entrepreneurs?" Doing Business: World Bank Group. 2014.
http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB14-Chapters/DB14-Why-are-minimum-capital-requirements.pdf; p 2

(22) Abou Chanab, Louay, Bahjat El-Darwiche, Tarek El Zein, and Ramez Shehadi. Stimulating Innovation Building the Digital Advantage for MENA Countries. Booz and Company. 2011. p 6

(23) Banque du Liban Intermediate Circular No 331 addressed to Banks and Financial Institutions. (August 22, 2013)
http://www.banqueduliban.gov.lb/circulars/download/477/

(24) Nader, Sami. "Lebanese Central Bank pushes start-up investments" Al Monitor. (September 9, 2014)
http://www.al-monitor.com/pulse/originals/2014/09/lebanon-economy-banking-reform-start-up-small-business.html

(25) Nash, Matt. "The 411 on 331: While there have been few investments to date, there's plenty more in the pipeline" Executive Magazine (November 16, 2015)
http://www.executive-magazine.com/special-report/the-411-on-331

(26) Berytech Fund II (Official Website) **http://berytechfund.org/**; and Khoury, Rabih. "Launch of the $55 million Lebanon Impact Fund by MEVP" LinkedIn. (October 23, 2014) **https://www.linkedin.com/pulse/20141023203429-1617741-launch-of-the-55-million-lebanon-impact-fund-by-mevp**; and Nader, Sami. "Lebanese Central Bank pushes start-up investments" Al Monitor. (September 9, 2014) **http://www.al-monitor.com/pulse/originals/2014/09/lebanon-economy-banking-reform-start-up-small-business.html**

(27) Nash, Matt. "The 411 on 331: While there have been few investments to date, there's plenty more in the pipeline" Executive Magazine (November 16, 2015)
http://www.executive-magazine.com/special-report/the-411-on-331

(28) "Impact of Social Media on GCC Businesses" Marmore MENA Intelligence (June 24, 2015)
http://www.e-marmore.com/Blog/Infrastructure/June-2015/Impact-of-social-media-on-GCC-businesses?lang=en-US

(29) Impact of Social Media on GCC Businesses" Marmore MENA Intelligence (June 24, 2015)
http://www.e-marmore.com/Blog/Infrastructure/June-2015/Impact-of-social-media-on-GCC-businesses?lang=en-US

(30) Pearce, Douglas. Financial Inclusion in the Middle East and North Africa: Analysis and Roadmap Recommendations. The World Bank.
http://siteresources.worldbank.org/INTMNAREGTOPPOVRED/Resources/MENAFlagshipInclusion12_20_10.pdf; p 6

(31) Ayan, Noyan. "80% of Arab World unbanked, promises huge growth for e-payments" Webrazzi (June 5, 2014)
http://en.webrazzi.com/2014/06/05/80-of-arab-world-non-banked-promises-huge-growth-for-e-payments/

(32) Scharwatt, Claire. "Opportunities and challenges for mobile money in the Middle East and North Africa: What the data is telling us" GSMA. (July 16, 2015)
http://www.gsma.com/mobilefordevelopment/opportunities-and-challenges-for-mobile-money-in-the-middle-east-and-north-africa-what-the-data-is-telling-us

(33) "WHO report shows increase in Lebanon cancer cases" Daily Star Lebanon. (July 21, 2011)
http://www.dailystar.com.lb/News/Lebanon-News/2011/Jul-21/144210-who-report-shows-increase-in-lebanon-cancer-cases.ashx

(34) "Region's largest solar project launched" The Jordan Times. (June 8, 2015)
http://www.jordantimes.com/news/local/region%E2%80%99s-largest-solar-project-launched

Date of Publication: January 2016
www.zain.com