Ideation Center Insight

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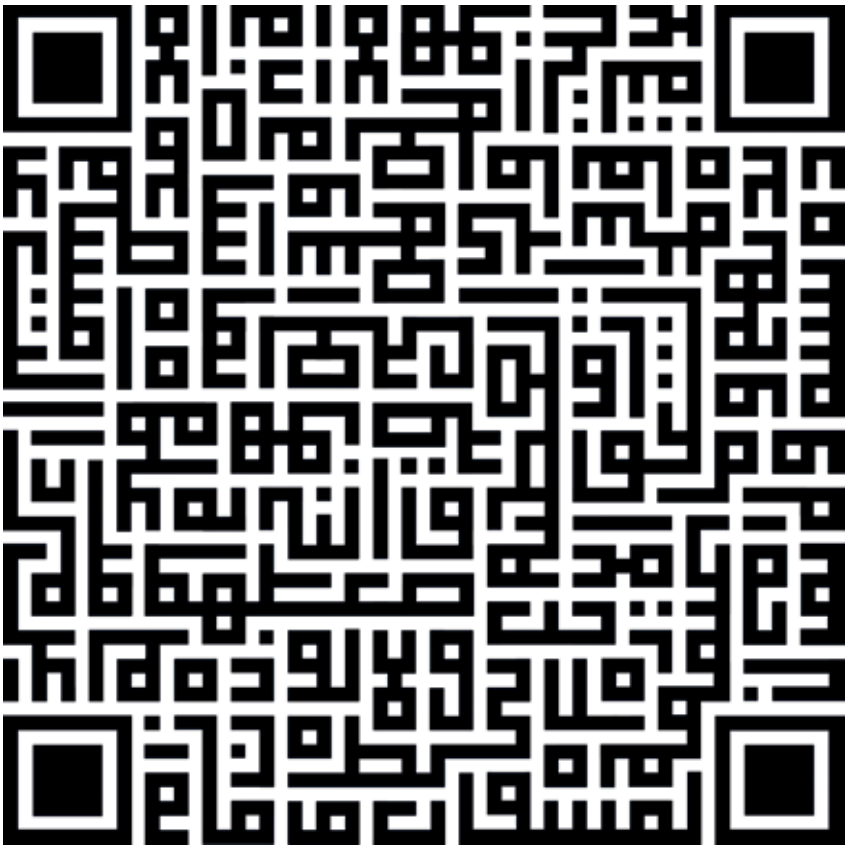

Understanding the Arab Digital Generation

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EXECUTIVE SUMMARY

A new generation is emerging in the Middle East and North Africa (MENA) region. Born between 1977 and 1997, this demographic is 40 percent of the MENA population. A growing number of them are extremely active online and in social networks. They are the Arab Digital Generation (ADG). Digital technology gives the ADG the potential to affect society and institutions in unprecedented ways.

To better understand the ADG, Booz & Company, in partnership with Google, surveyed more than 3,000 digital users in nine countries. The results portray how digital technology is influencing the ADG and giving it the potential to shape the region in turn. Although technology is also affecting other young people around the globe, the Arab world is more susceptible to widespread change, due to demographics and the region's strong behavioral norms.

The survey results show the impact of technology on society. The ADG is developing its own, less traditional ideas about family, religion, and marriage. The results also point to implications for sectors critical for socioeconomic development: 1) government, where the ADG has high expectations for transparency and e-government services; 2) the private sector, where the ADG's significant buying potential is untapped; 3) education, where the ADG wants digital upgrades and new teaching tools as preparation for the job market; and 4) healthcare, where the ADG feels that providers can leverage new technology to improve access to care, along with quality and cost.

In sum, the ADG is distinguishing itself economically, socially, and politically from earlier generations. For policymakers, business and community leaders, and educators, this group represents an important change and potential opportunity. Those who wish to capitalize on the promise of the ADG must take active steps to better understand it and the digital world that it inhabits. If not, they risk increasing the digital divide, which can have serious socioeconomic implications in a global economy.

DIGITAL LIFESTYLE: HOW THE ARAB DIGITAL GENERATION USES TECHNOLOGY

- 83 percent use the Internet daily
- 40 percent use the Internet for at least five hours a day
- 61 percent spend more than two hours per day on social networking sites
- 78 percent prefer the Internet to TV
- 54 percent have higher education levels; this proportion is higher for women (60 percent) than men (49 percent)
- 16 percent access the Internet from schools or academic institutions; 76 percent access it from home
- 63 percent express a desire for freedom to do and say what they want as long as it does not harm others
- 37 percent say they can freely express their opinions without fear of the consequences
- 53 percent research companies and products online, and 51 percent spread the word about their experiences with companies—both good and bad
- 37 percent believe that technology has reduced family communication and cohesion
- 41 percent search the Internet in both Arabic and English; 21 percent chat in both languages
- 48 percent are not satisfied with the quality of local websites; 47 percent are not satisfied with local versions of international websites
- 37 percent are not satisfied with the availability of Arabic websites
- 46 percent of unmarried ADG members expect to choose for themselves whom they will marry
- 8 percent use an online platform to connect with government or political leaders
- 31 percent cited lack of trust in leaders and fear of being targeted as the main reasons for not communicating with political leaders
- 42 percent do not buy products online because they prefer to deal with a person; 38 percent worry about website security
- 48 percent believe that the region's healthcare services require technological upgrades; 43 percent believe this of education services
- 56 percent of those unemployed cited lack of opportunities for work
- 40 percent stated that education does not prepare students for the job market
- 43 percent of ADG members would like to start their own business; just 3 percent want to work for a local company with no international presence
- 24 percent believe that media content is totally controlled by government

(From the Booz & Company–Google Arab Digital Generation Survey 2012)

A NEW GENERATION

Advances in information and communications technology (ICT) are shaping a new generation in the MENA region, one that is far different from its predecessors. Today, young people increasingly conduct their lives online. They use digital technology to socialize with their friends and to browse online for products and services (though they are reluctant to purchase online). They upload YouTube videos to express themselves, voice their social and political beliefs, and broadcast local events for the entire world to watch.

Digital technology is therefore helping this generation differentiate itself from previous generations in several ways. These young people are far more active as consumers and as critics. They are more directly involved than their parents in the media they consume and purchase, and they are more outspoken about society, economics, and politics. Their social and business networks—through Facebook, Google+, LinkedIn, blogs, and other media venues—are providing new socioeconomic and civic platforms, requiring society and institutions to reinvent current business and policy models.

We call this demographic segment the Arab Digital Generation, or ADG (which we define as people ages 15 to 35 who are consistent users of technology). Although they have similar digital characteristics as other young people around the world, they are distinctly Arab in that they reflect the traditions, challenges, and tribulations of their region, along with a strong desire to make changes.

This parallels a similar evolution in other regions, as digital technology is becoming more pervasive. More people have access to a mobile phone today than to electricity.[1] The sheer volume of information online is increasing in a nonlinear fashion. Cisco estimates that mobile data traffic will increase eighteen-fold between 2011 and 2016, to 10.8 exabytes (an exabyte is 10^{18} bytes or 1,000 petabytes).[2] This growth tends to be concentrated in developing economies. For example, the Internet user base in China surpassed 384 million in 2009, more than in both the U.S. and Japan combined. Current projections call for that number to reach 650 million by 2015. Moreover, Internet usage is consistently higher among younger and more educated people. Roughly half of 16- to 24-year-olds in Europe are savvy users of social networks. The World Internet Project, which analyzes online usage patterns, found that roughly half of the respondents in most countries analyzed were regular Internet users, and more than 80 percent of young people regularly went online.[3]

Yet although technology is driving social, civic, and economic shifts worldwide, the MENA region has perhaps more propensity to embody these changes than elsewhere, for several reasons. First, young people—who have greater adoption rates for new technology—make up a larger portion of the overall population. From 2006 to 2011 the number of Internet users in Arab countries has been growing by 23 percent annually.[4] World Internet users, by comparison, have grown by only 14 percent annually.[5] In addition, the region is undergoing a strong urbanization trend, and urban dwellers are similarly more likely to use technology.

At the same time, the MENA region has seen extremely rapid growth in ICT infrastructure. Over the past five to seven years, no other part of the world has advanced as rapidly. Through investments in telecommunications infrastructure, digital readiness initiatives, and competitive arrangements for network providers, the region has closed the digital gap with North America, Europe, and Asia. The Networked Readiness Index of the 2012 Global Information Technology Report ranked three Arab countries in the top 30. In the United Nations' e-Government Survey 2012, the United Arab Emirates (UAE) was among the top third of 190 countries in telecommunications infrastructure index value, along with Qatar, Saudi Arabia, and Bahrain.[6]

There are cultural factors at work, as well. In the past, this region has been governed by a strong set of traditional structures, such as family, religion, and societal norms. Younger people relied on these structures to guide them and tell them how to live their lives. Now, digital technology offers another source of information, which can upend those traditional structures (or reinforce them for organizations that can adapt and connect with these young people).

In this way, the ADG represents a potentially greater disruption—and a potentially greater opportunity—to society and institutions throughout the MENA region than similar groups pose in other regions. Just as the ADG is altering the Arab socioeconomic and political landscape, these people expect changes in return. They are different from young people in other parts of the world, in that they are actively seeking—indeed struggling—to build an identity for themselves distinct from previous generations. This new identity will permeate all aspects of society: relationships with friends and family, political spheres, consumer behavior, and religion.

To understand this generation and how it is being shaped by technology, Booz & Company collaborated with Google on a survey of more than 3,000 members of the ADG. The survey included both qualitative and quantitative aspects (*see "Survey Methodology"*). The results give a clear snapshot of this generation and its evolving beliefs. Moreover, our results point to several clear indicators for policymakers; business leaders; and those who oversee religious, education, and healthcare organizations.

For example, members of the ADG seek better and more secure connectivity in order to buy products and financial services. They also expect better public services such as e-education initiatives. And they expect more transparency from government agencies and officials.

Policymakers and business leaders who wish to engage with this generation must understand their use of digital technology and implement needed development and reform across society and institutions. This Ideation Center Insight looks at the ADG's impact on society and each of these institutions in turn, and makes specific policy recommendations following each section.

Leaders in the MENA region should view this oncoming change as positive. Through communications and technology, the ADG will help shape the future of industries and society, capturing economic and social value to ensure the growth and stability of the region as a whole.

WHAT IS THE ARAB DIGITAL GENERATION?

The ADG's members are Internet users ages 15 to 35 who are digitally active; own a laptop, computer, or smartphone; access the Internet multiple times each day; and have at least one account on a social network. They are educated and independent; they are decidedly religious yet also free-spirited. They are politically aware, if not politically active. They are aligned with general Islamic principles and country/family traditions and culture, but they are constantly questioning tradition and its effect on their lives. Family still represents their most important social unit, and friends are a source of counsel for many decisions. Through the digital world, women—particularly in some cultures of the MENA region—now have a platform to express themselves, share their ideas, and interact with men in virtual space. In previous generations, interaction with men and the outside world was limited. This generation has grown up during a time of political turmoil in the region. They have witnessed or heard about the 1991 Gulf War, have watched the attacks of 9/11 and military operations in Afghanistan and Iraq, and have been exposed to the more visible forms of religious extremism. They have participated in one form or another in the Arab Spring. They are very much affected by Western culture and are wary of its effect on themselves, their children, and future generations.

SURVEY METHODOLOGY

Booz & Company and Google commissioned YouGov, a research and polling firm, to conduct the Booz & Company–Google Arab Digital Generation Survey, which occurred in two distinct phases.

During the qualitative phase, YouGov conducted eight two-hour focus groups in Saudi Arabia, the UAE, Egypt, and Jordan. These were followed by online community discussion groups in Saudi Arabia, the UAE, and Egypt, each lasting three days. The sample comprised respondents who accessed the Internet at least three to four times a week (for an average of at least 30 minutes each day); owned a smartphone, computer, or laptop; and had at least one account on a social network. The main quantitative study was a combination of online and face-to-face interviews, which took place from June 12 to July 22, 2012.

The total sample was 3,127 responses spanning nine countries including Saudi Arabia (436), UAE (Emiratis: 322, Western expatriates: 172), Egypt (420), Bahrain (255), Kuwait (244), Qatar (246), Jordan (302), Algeria (395), and Lebanon (335). The respondents were split roughly equally by age (47 percent of respondents were between 15 and 24, and 53 percent were between 25 and 35) and gender (53 percent of respondents were male, and 47 percent were female).

Policymakers and business leaders who wish to engage with this generation must understand their use of digital technology and implement needed development and reform across society and institutions.

CHARACTERISTICS OF THE ARAB DIGITAL GENERATION

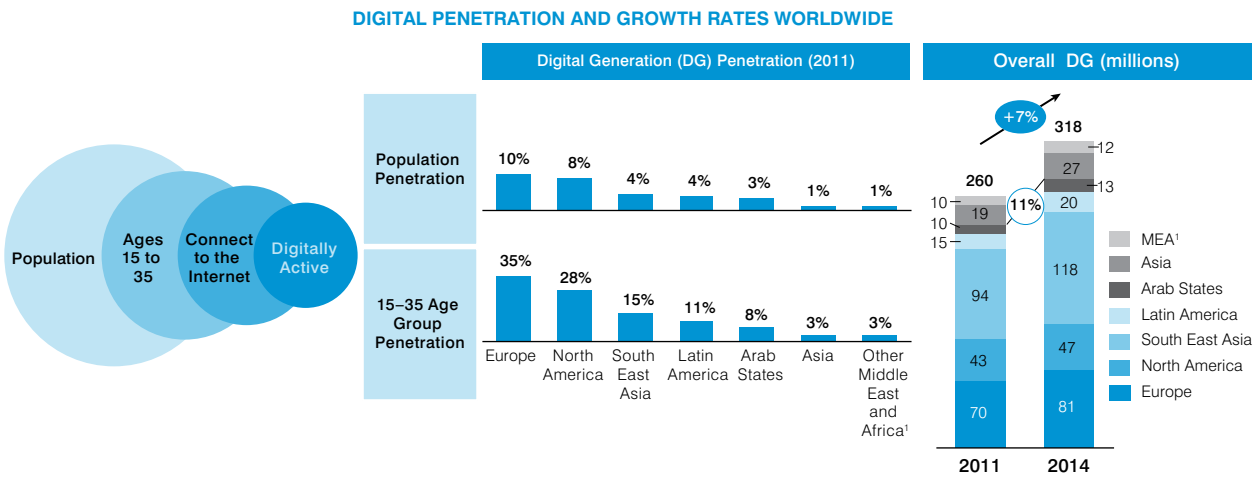
We looked at the ADG through several lenses, examining demographic, technographic (analyzing their usage of digital technology), and psychographic factors.

Demographics

The ADG represents a growing portion of the world's digitally active users. We estimate the digitally active Arab Internet users ages 15 to 35 to number 10 million—nearly 4 percent of the currently estimated 260 million digitally active users worldwide.[7] Digitally active users are a microcosm of the broader Arab youth population. This group is expected to rise to 13 million by 2014—a rise of 11 percent annually, compared to only 7 percent for the world (*see Exhibit 1*).

Notably, this digitally active generation—part of a larger group ranging between 15 to 35 years of age, which represents over 40 percent of the current Middle East population—is growing fast and will continue to do so in the future. Indeed, by 2030 this age group will be among the

Exhibit 1
The Arab Digital Generation Is Growing Fast and Will Continue to Do So



[1] Excluding the 22 Arab League members
Source: Econsultancy, "Middle East and North Africa Digital Consumer Report"; research into media consumption and habits of MENA Internet users conducted by Effective Measure in conjunction with Spot On PR (September 2010); Euromonitor; Informa; Booz & Company analysis

largest such demographic segments in the world, at 38 percent of the total Middle East population. That is on par with Asia and higher than North America and Europe. This implies that the number of digitally active users is likely to grow relatively faster than the rest of the world.

This demographic phenomenon is important because it amplifies the social, economic, and political stakes in the region. A larger population of young, impassioned people who rely on technology has the potential to trigger proportionally greater changes across society and institutions.

The ADG is also highly educated, which also drives greater technology use. Among those not currently in university, more than half have already earned their degree. The vast majority of the ADG is either still studying or has recently completed its degree. One in six ADG members is a full-time college student (primarily at state-funded institutions). Among non-students, a majority (54 percent) have university degrees. The percentage is higher for women (at 60 percent) than men (49 percent).

However, these people are not finding employment opportunities commensurate with their education. Youth unemployment in the MENA region in 2011 was 27 percent for those ages 15 to 24—the highest in the world for this age group, and more than double the global average. Among the entire universe of respondents (who span in age from 15 to 35), approximately half are working. This disconnect between education level and employment level is troubling. If policymakers in the region do not take strong steps to create better economic opportunities for these young people, then this young generation will agitate for structural changes in the economy, or they will simply leave for other countries that can offer them greater potential employment opportunities.

Considering marital status, most respondents (65 percent) have never been married, a third (32 percent) are married, and a minority (just 3 percent) are divorced, separated, or widowed. Interestingly, 56 percent of those who are divorced, separated, or widowed have on average one child or fewer—a stark contrast to the typically large average family size in the MENA region, which is double that of Western countries. Egypt and Kuwait, for example, have an average household size of about 4.4 and 10, respectively, whereas in the U.S. and the U.K., the figures stand at 3.2 and 2.0, respectively.[8]

Technographics

For the ADG, life without digital technology is unthinkable. Overall usage levels are high—an impressive 83 percent of all survey respondents use the Internet daily. Another 11 percent use it at least five to six days per week. Internet usage differs across clusters, with countries in the Gulf Cooperation Council (GCC; Bahrain, Kuwait, Qatar, Saudi Arabia, and the UAE in our survey) reporting slightly lower than average daily usage. This is in line with recent literature about Internet usage patterns. A recent Booz & Company youth survey found that surfing the Internet was the most popular leisure activity in the region, and one in four respondents spent at least 10 hours a week online.[9]

The technology behavior of the ADG can be depicted along two dimensions: online activities, and the platforms they use to access the Internet.

Purpose of Usage

The most important reason for accessing the Internet is personal entertainment, such as online movies, blogs, or social media. These are preferred to the detriment of TV, radio, and print newspapers. By contrast, the professional use of the Internet, such as for business, academic purposes, or personal

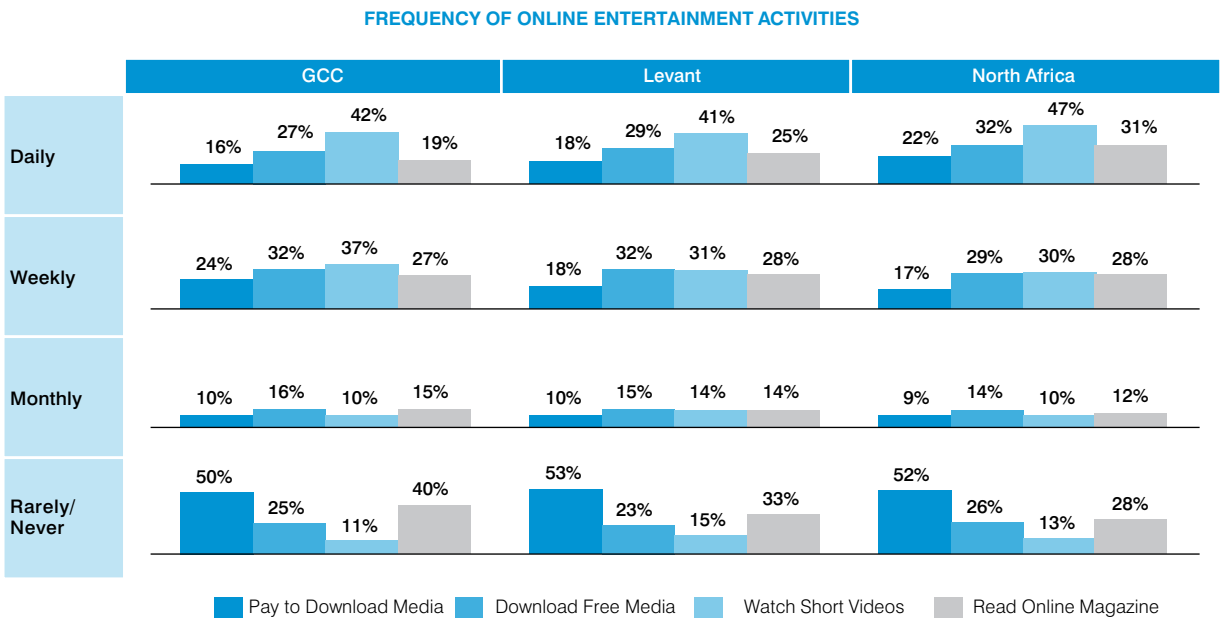
administrative tasks like paying bills, is more limited. These represent missed opportunities for education and economic interactions.

Entertainment Activities

Entertainment activities in the MENA region are popular across all clusters (*see Exhibit 2*). Social activities are high on the list of interests—nearly two-thirds of respondents spend between one and three hours on social networking sites each day. The majority of users across all regions rarely or never pay to download media.

Across all regions, more than 40 percent of users watch short videos online for entertainment at least once a day, and often more frequently. YouTube usage in MENA countries is a striking example of access to venues of entertainment. With 167 million playbacks per day and 100 percent

Exhibit 2
Online Entertainment Is Popular with the ADG

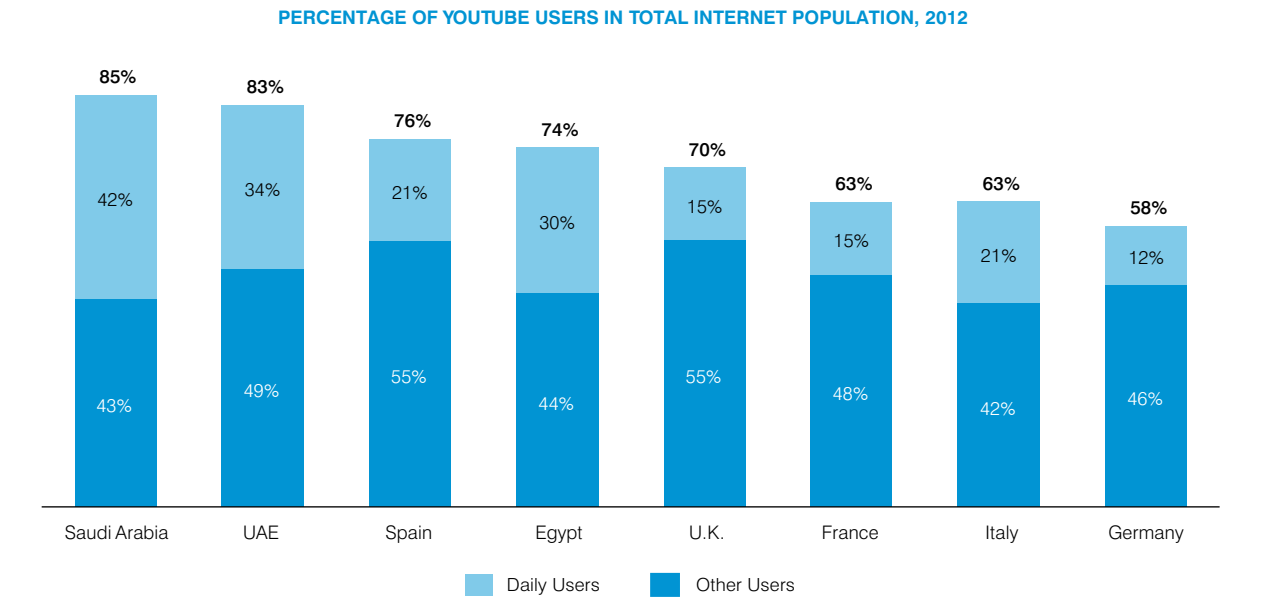


Note: GCC = Bahrain, Kuwait, Qatar, Saudi Arabia, and the UAE; Levant = Lebanon and Jordan; North Africa = Egypt and Algeria.
Source: Booz & Company–Google Arab Digital Generation Survey 2012

year-over-year playback growth, MENA countries—and Saudi Arabia in particular—stand as the highest users of YouTube as a percentage of the total Internet population (*see Exhibit 3*).

The Internet has clearly overtaken TV as the must-have technology for the ADG. When faced with a clear alternative between living without TV (most popular option in the MENA region) or without the Internet, nearly 80 percent said they would give up television. That decline is no longer a hypothetical scenario for other traditional media; increased reliance on digital technology has led to reduced consumption of traditional

Exhibit 3
The ADG Loves YouTube

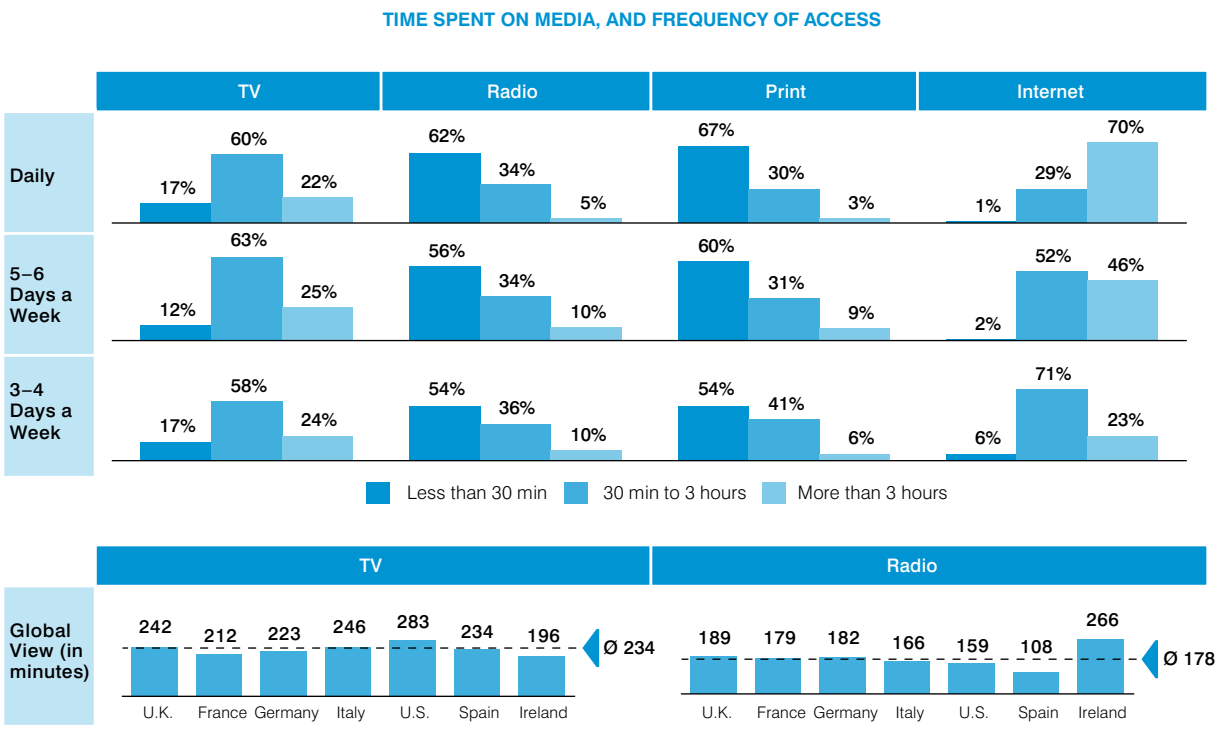


Note: "Other users" refers to people who view YouTube videos on a weekly, monthly, or less frequent basis.
Source: Enumeration Study 2012, TNS

media even beyond that of global benchmarks (*see Exhibit 4*). Roughly 85 percent of the ADG now spend less than one hour a day with print media.

The ADG is also relatively uninterested in online magazines. This may be due to a lack of trust in such content, or because the ADG believes there is not enough quality material available in Arabic. Whatever the reason, the result is potentially impoverishing at both a cultural and linguistic level. If people do not read online content, then others will not produce it, and

Exhibit 4
ADG Internet Access Exceeds Traditional Media Usage



Source: Ofcom, "International Communications Market 2011"; Booz & Company–Google Arab Digital Generation Survey 2012

the relative lack of Arabic content on the Web could become a negative, self-reinforcing trend.

Professional, Academic, and Personal Activities

About 28 percent of the ADG use the Internet for professional reasons, such as e-mail and business-related online search activities. What is particularly striking is that although the ADG is the best educated and most ambitious generation the region has yet produced, it rarely uses the Internet for education purposes. This is not for lack of desire or interest from the ADG's side. We know that youth in the region are seeking more technologically enhanced forms of education that will help them obtain employment and fulfill their goals. Rather, the fault lies with the education sector, which thus far has not provided the access or the Arabic digital content that this demographic craves. There is a clear need across the region to improve the quality and job relevance of education, with technology a critical tool for delivering pedagogical content (*see the section entitled "Survey Results Regarding Education," p. 31*).

Respondents across clusters also spend significantly less time (9 percent) on the Internet for personal activities such as paying bills. This low usage level for commerce is apparent across the MENA region but more so in the Levant (Lebanon and Jordan in our survey) and North Africa (Egypt and Algeria in our survey), where it is significantly lower than international standards (*see Exhibit 5, p. 13*). This seems to relate to a lack of confidence in settlements systems and digital security, as reflected in under use of the Internet for purchases (*see the section entitled "The Private Sector," p. 26*).

Platforms Used to Access the Internet

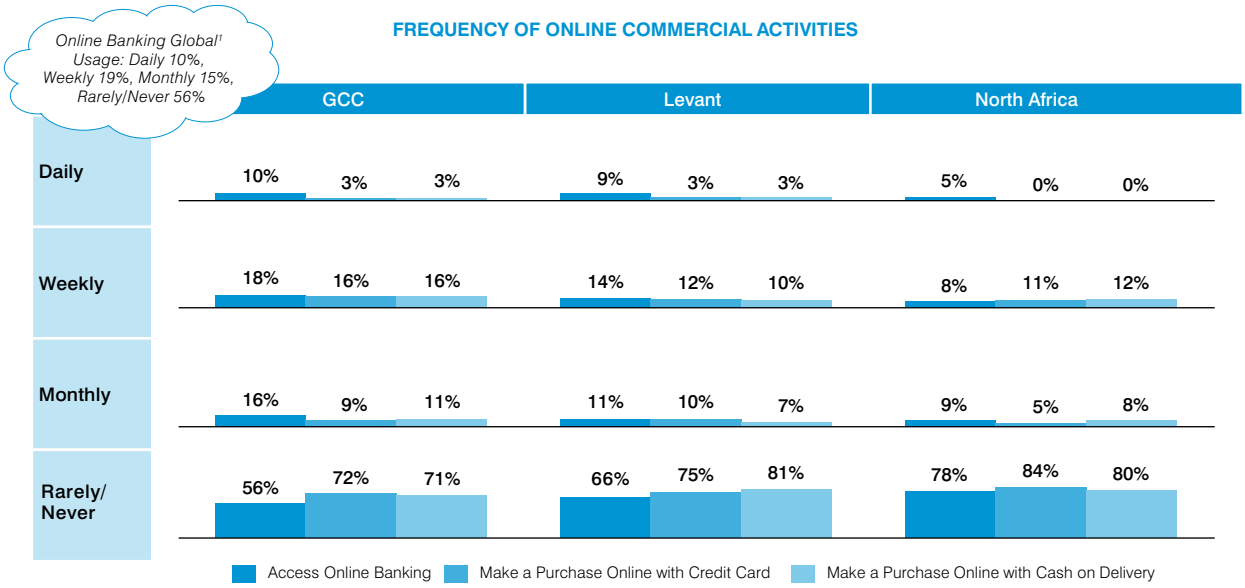
Internet access devices are widespread among the ADG, yet the preference in platforms is shifting. Although computers are ubiquitous in the region, the ADG increasingly relies on portable devices such as smartphones, tablet computers, and laptops to get on the Internet (*see Exhibit 6, p. 13*).

These devices are so prevalent that any deprivation leads to functional disadvantage and emotional discomfort. During the focus group sessions, a "what if" scenario of temporary Internet deprivation elicited anxieties from young respondents. A teenage female from Jordan described not having Internet access as akin to "walking without shoes." Another respondent from Saudi Arabia related, "Once I forgot my mobile and went out [and] I didn't enjoy my outing. Even though it was a party, all I kept thinking about was who had called my phone or sent me a message."

This is in line with findings in other parts of the world. Among younger Europeans, 52 percent say they feel disconnected from the world if they don't have their mobile phones with them, and 91 percent of mobile phone users keep their phones less than a meter away, waking or sleeping.[10]

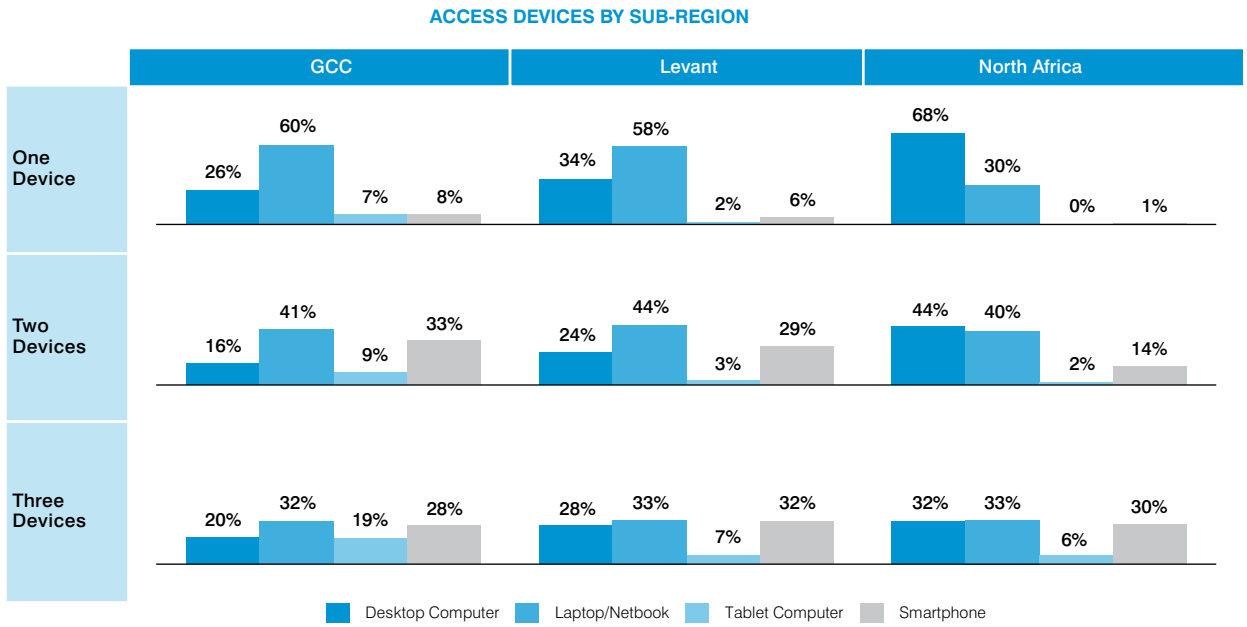
That said, there are clear differences within the region, and between the region and the rest of the world, in smartphone penetration. Smartphones

Exhibit 5
The ADG is Still Hesitant to Buy Online



[1] As indicated by averages of Australia, Colombia, Hungary, Mexico, New Zealand, Sweden, Taiwan, U.K., U.S. (2009).
Source: Booz & Company–Google Arab Digital Generation Survey 2012

Exhibit 6
The ADG Has Many Internet Access Devices



Source: Booz & Company–Google Arab Digital Generation Survey 2012

are popular in the more affluent GCC, which has usage levels similar to those of developed markets. By contrast, in the Levant and North Africa the adoption of smartphones is less extensive (*see Exhibit 7, p. 15*).

For the ADG the home remains the most common location from which to connect. Indeed, in North Africa 83 percent of the ADG get online from their place of residence. Connecting "on the move" is also popular, particularly in the GCC and the Levant, where such access exceeds the global average (*see Exhibit 8, p. 15*).

Psychographics

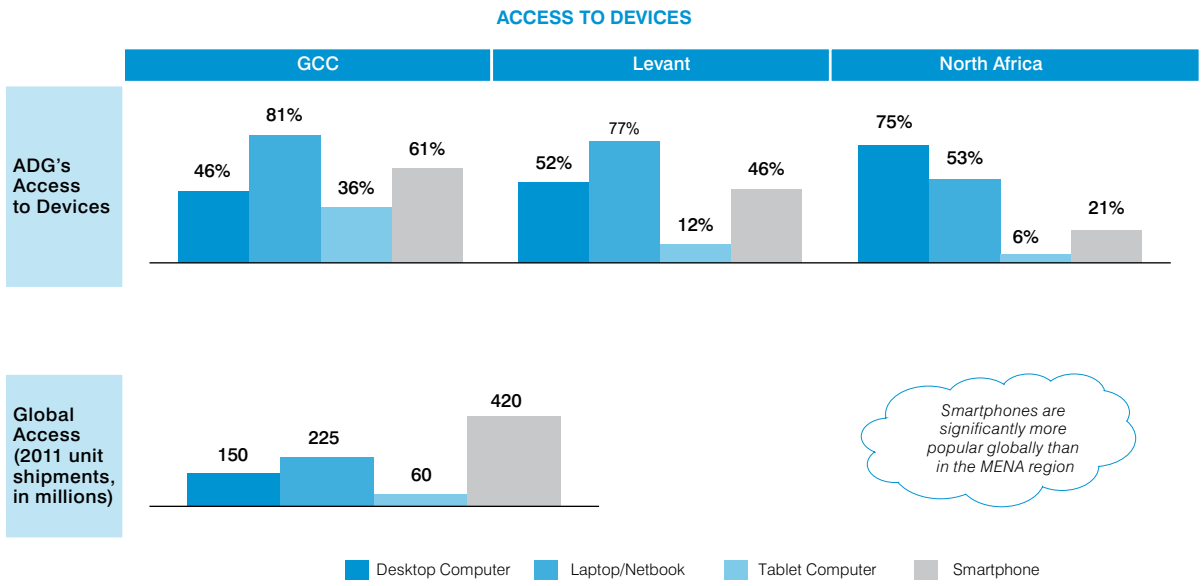
Digital technology is a liberating force for the ADG. For example, 63 percent of respondents believe that they should be able to do what they want as long as it does not negatively affect other people. At the same time, far fewer (37 percent) feel that they are able to express their opinions freely without fear of the consequences. This is even more the case in the GCC, where just 29 percent said they felt free to express their opinion (*see Exhibit 9, p. 16*).

These psychographics—the simultaneous notions of freedom and frustration—have clear effects on how the ADG relates to the state and to businesses. The result is a relative lack of ADG engagement with both government figures and corporate entities. There is a wariness among the ADG about perceived existing structures that limit its options when compared to the free-form anonymity of life online, where everything seems possible. The ADG wants to connect, it wants to talk to its governments, purchase from businesses, and use technology for healthcare, but it needs to feel comfortable and reassured in these interactions.

A majority of the ADG acknowledges the role of technology in enabling freedom of speech. Most use the Internet to voice their opinions and to express their feelings in an unfettered manner. They can say things online that they are unable to say elsewhere. They tend to use pseudonyms or nicknames to share their honest thoughts/ideas—and to protect themselves from the consequences. As one male respondent from Saudi Arabia put it, "For me, on the Internet, I might use a pseudonym and express my honest opinion and break all limits." And as a young Saudi female respondent proclaimed, "We used to feel weak in front of males, but not anymore. Now we are free to express our opinions."

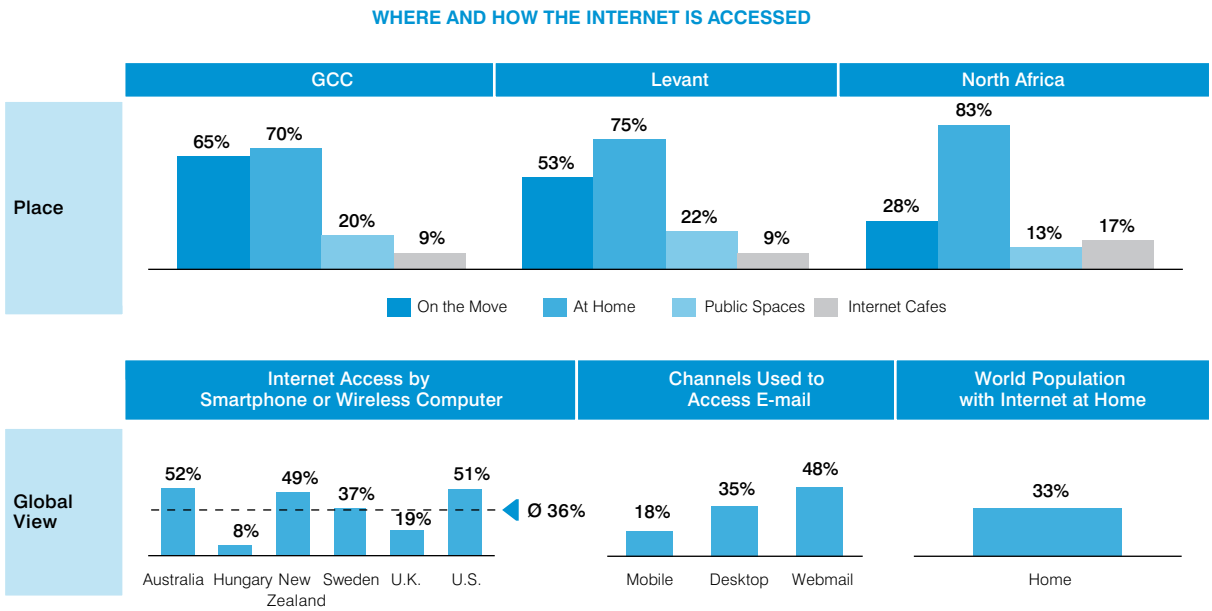
In addition, members of the ADG say they base their life decisions on their own opinions, more than on those of traditional structures such as religious institutions. On average, 42 percent make their own decisions, even if others disagree.[11] More than half said that they should be free to choose their own career or education path based on their personal interests, rather than on the influence of others (*see Exhibit 10, p. 16*). (Notably, this percentage is higher among the younger half of the sample, at 57 percent of those ages 15 to 24, compared to 46 percent of those ages 25 to 35.) "Technology helps you make choices," one man from the UAE said in a focus group. "There's nothing that's forced on you. You can say no, I want this and I don't want that. Everything is in front of you."

Exhibit 7
The ADG in the GCC and Levant Follow Global Trends in Device Preferences



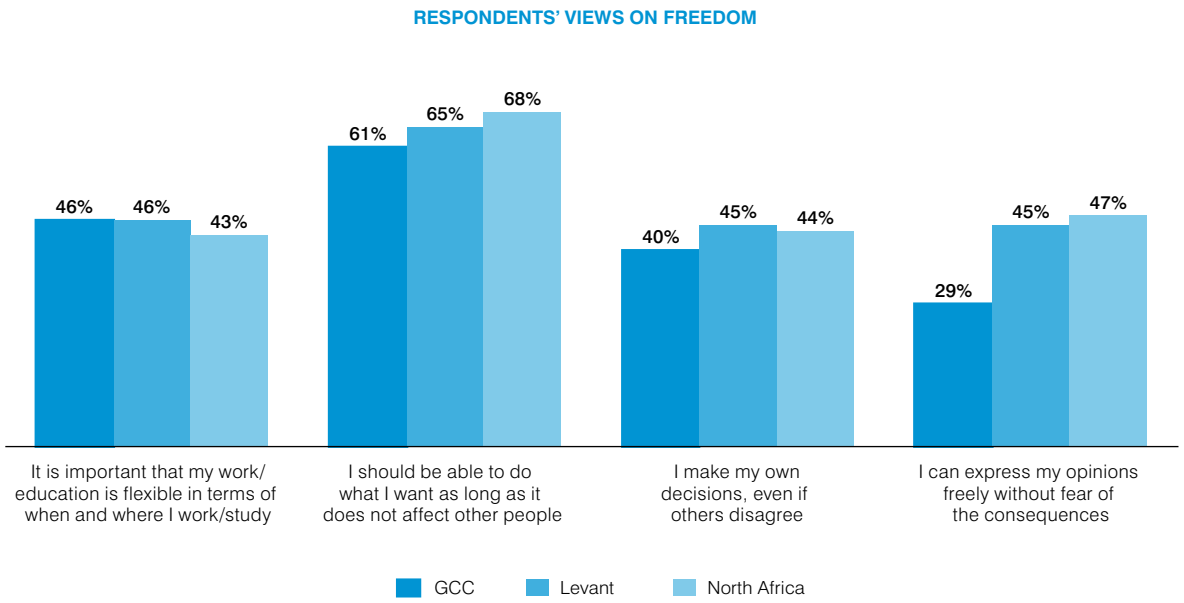
Source: Econsultancy, "Internet Statistics Compendium" (Global), February 2012; Booz & Company–Google Arab Digital Generation Survey 2012

Exhibit 8
On-the-Go Internet Access Is Higher in the GCC and Levant Than the Global Average



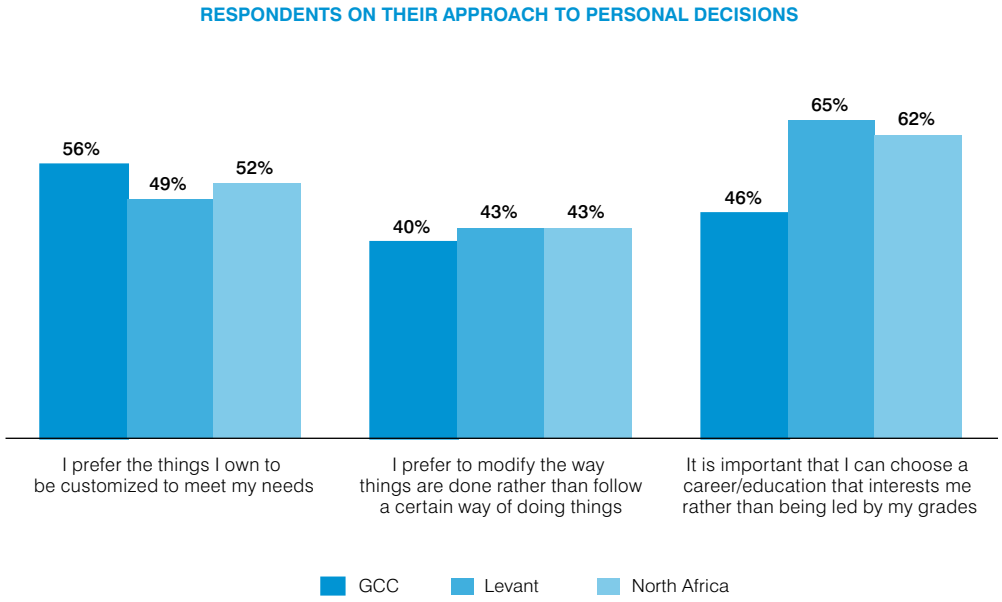
Source: World Internet Project (WIP) 2012; Booz & Company–Google Arab Digital Generation Survey 2012.

Exhibit 9
The ADG Wants More Flexibility and Freedom

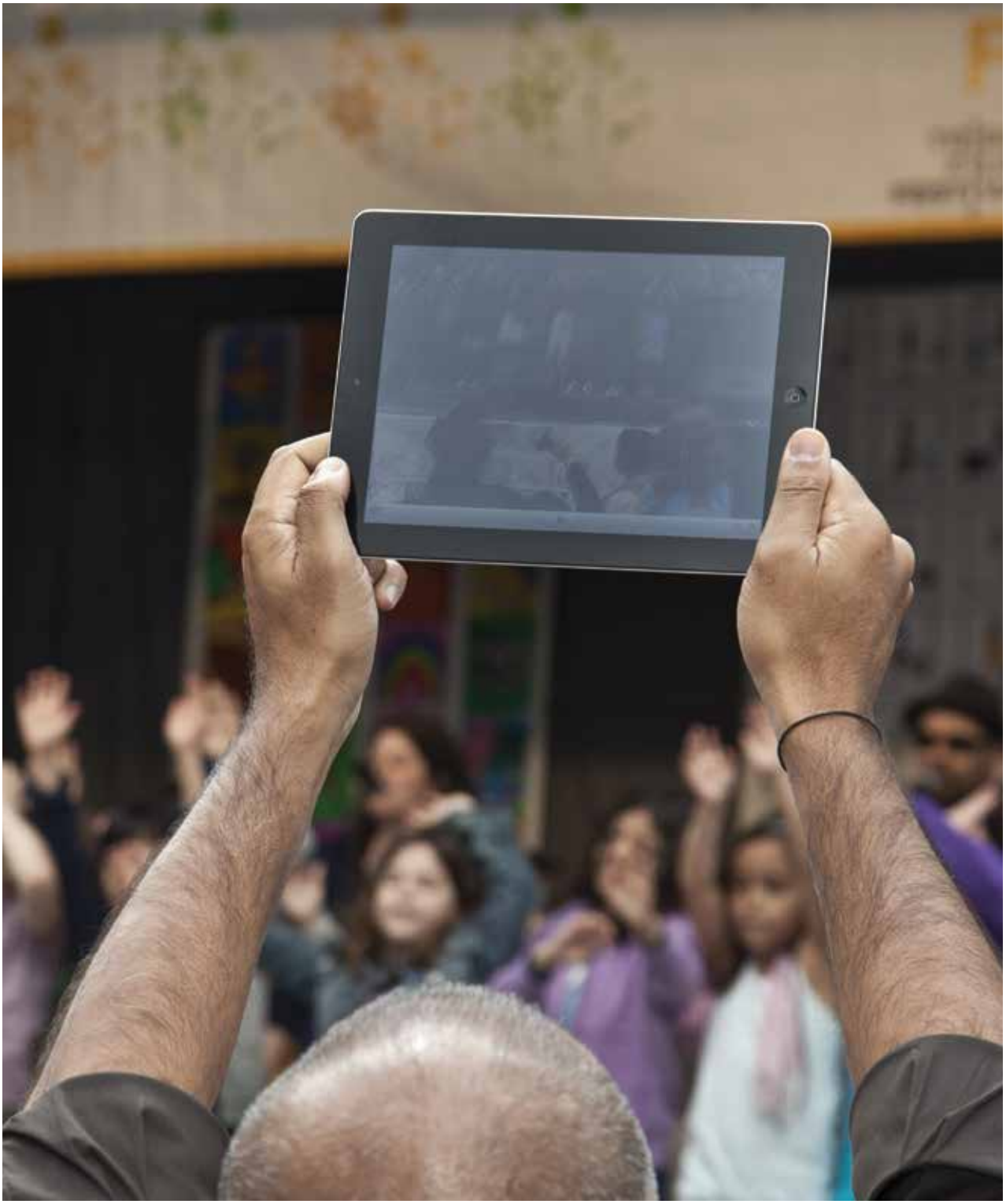


Source: Booz & Company–Google Arab Digital Generation Survey 2012

Exhibit 10
The ADG Wants to Define Its Life Choices



Source: Booz & Company–Google Arab Digital Generation Survey 2012



THE IMPACT OF THE ADG ON THE MENA REGION

The ADG and its reliance on communications technology will have a profound effect on the MENA region. This section discusses the specific impacts on society and on institutions in the realms of government, the private sector, education, and healthcare. The ADG appreciates the power of technology and wants to be heard. It is, however, tentative in its approach to how it engages with a range of institutions. This wariness is not rejection; rather, it is the ADG's signal that it seeks reassurance and that it wants to build connections that relate to its ambitious and educated approach to life. As Booz & Company has discovered in previous surveys, young people in the MENA region want more—and want to contribute more—than previous generations were able to.[12]

Impact on Society

At its most basic level, the Internet has transformed the way that people meet and interact with each other. It has also brought paradoxes to communication. People now have networks of 300 or 400 social and professional contacts whom they routinely connect with around the world. Yet they rarely have face-to-face conversations with these people. Indeed, they have never met most of them. Some feel that this has an isolating effect, in that people spend more time communicating online and less time speaking face-to-face.

These effects have been accelerating thanks to the impact of social media, an area in which the MENA region is catching up fast. For example, Facebook and Twitter have become the most popular social networks in the region, as they have around the world. Although there are not many Arab-only social networks, a few exceptions stand out. Specifically, Aywaa.com is a social network that supports a user interface similar to that of Facebook. Yallatunes.com supports peer-to-peer sharing of Arabic songs and video clips. The communication features of these sites are rendering the telephone—and even e-mail—less relevant for socializing.

The societal shifts among the ADG have come in three principal areas: communication with friends and family, marriage, and religion.

Communication with Friends and Family

The survey results indicate that members of the ADG have less direct personal contact with their family and friends, as technology increasingly provides them with communication alternatives. To an extent, this distancing also enables the ADG's more independent spirit when it comes to making decisions and choosing individual life paths.

Among specific quantitative results, some 44 percent say that they spend less time meeting close friends face-to-face and more time communicating with them online or over the phone, compared with around a third (34 percent) who disagree with this claim. Interestingly, this is more true of females (48 percent agreed with this statement) than males (41 percent).

Only 31 percent of the ADG say they actually make telephone calls to their friends. In comparison, 55 percent call their family members. When communicating with friends, members of the ADG primarily use instant messenger platforms, text messages, online chat, and social network messaging; e-mail is seen as formal and even outdated.

At least one in two members of the ADG believes that parents are unable to keep up with the younger generation when it comes to technology, and that traditional values are being diluted as society is becoming more connected via the Internet. Another aspect of the change in society is the evolution of language. Respondents perceive that by spending so much time on the Internet—where English is the universal language—they are losing touch with their native language. At least two in five ADG members claim to use both Arabic and English to search the Internet.

The qualitative results support these findings. Most participants in the survey's focus groups felt that digital technology has improved their social connections to friends and family. "I'm very much interested in using social networking websites like Facebook and Twitter," said one man from the UAE. "Bringing every kind of social group together in one place and letting them interact is really a big thing indeed."

Yet some voice a concern that too much time spent online is changing society in less positive ways. "I feel so much of these technologies are imposed on us rather than being chosen by us," said a male from Jordan. "There are many technologies (even Facebook) that I don't recall how I ended up using. Everyone else starts using it so you become alienated unless you use it." A female from Jordan echoed this, speculating about a future in which technology becomes even more ever-present: "Life will not be nice," she said. "People will just stay at home or walk in the streets playing

with their smartphones or laptops. There will be less interaction or real relationships between people."

Marriage

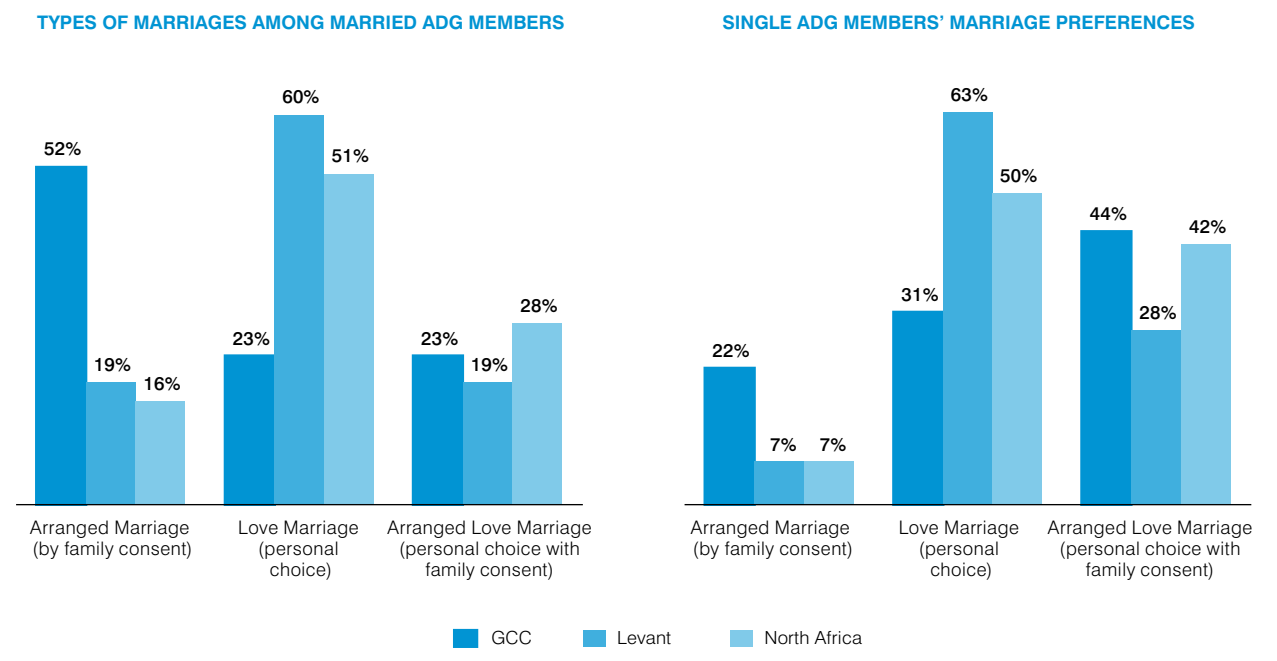
Technology is also changing perceptions of marriage, as the survey results indicate. Among married members of the ADG, a majority of respondents in the GCC had an arranged marriage, especially in Saudi Arabia (64 percent), Kuwait (54 percent), the UAE (51 percent), and Qatar (46 percent). However, the survey results show this pattern is shifting. Among those not yet married, respondents were asked what type of marriage they would prefer, and less than a third said they want an arranged marriage (*see Exhibit 11*). Even among those who are still marrying through traditional approaches, members of the ADG now have the opportunity to research the other person online—and many do.

A striking example of changing views about marriage protocol is the survey response about whether it is acceptable to marry a person whom the respondent had met online. More than 60 percent in North Africa and the Levant approve of a male member of their family marrying a woman whom he had met online, with the GCC approval rate 44 percent. In this regard, the region is also narrowing the gap with other countries, where online dating is far more prevalent, and now represents a US$1 billion industry worldwide.

Surprisingly, there were high rates of approval for a woman finding her prospective husband online, even if the rates were lower than those for men—55 percent in North Africa and the Levant approved this, along with 41 percent in the GCC. We assume that these "positive" responses are based on the premise that the online forum is only for the initial introduction and screening, and that potential spouses still then proceed through the conventional processes of evaluating each other's personalities and social compatibility before formalizing the relationship. "Meeting through social network sites or even marriage sites for the sake of simply getting introduced to each other is good," said one Egyptian male. "But later, they need to meet in real life. They need to give themselves a chance to know each other in person to understand their personalities."

However, others voiced overt skepticism over the concept of even meeting a potential spouse online. "Recently, marriage websites have grown a lot and claim to be based on Islamic beliefs," said one UAE man. "My opinion is that it's a waste of time and a trap. It is false and does not belong to our customs and traditions." A woman from Jordan was similarly

Exhibit 11
Traditional Marriages Are Strong in Some Regions; Singles Want to Be Able to Choose



Source: Booz & Company–Google Arab Digital Generation Survey 2012

negative. "The new method of meeting partners is the Internet," she said. "But when you think about it, it is so weird. You don't know this person. How do you know his intentions? How do you know he's not lying?"

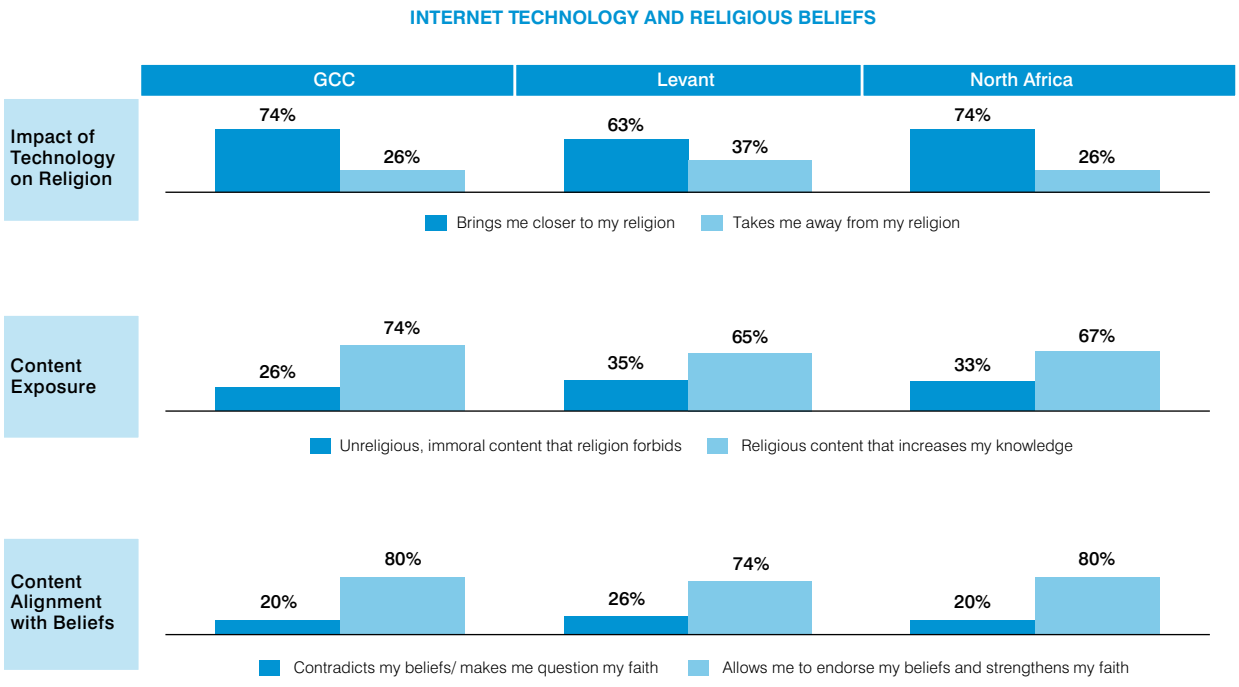
Religion

The final major societal shift driven by the ADG is in religion, where the region's strong culture and heritage is evolving rapidly. Virtually all religious figures now have blogs. This provides lay people with access to different schools of thought and effectively removes the hierarchical aspect of religious discourse. Yet, contrary to popular wisdom, many respondents feel that this aspect of the Internet has reinforced their faith. The vast majority of respondents (approximately 70 percent) reported that technology allowed them to explore the various facets of religion through websites. Although some noted that the Internet exposed people to immoral content, or made them question their faith, roughly three times as many held that the Internet exposed them to religious content that increased their religious knowledge and strengthened their faith.

"Technology helps me in the search for [answers to] questions that spring up in my mind," said an Emirati female. A male from Egypt voiced similar experiences. "TV channels and the Internet helped me to develop and consolidate my religious faith; now I see the religious channels and look for opinions and communicate with religious leaders."

Such impact on religion is more dominant in the GCC and North Africa than in the Levant (*see Exhibit 12*). Overall, however, the ADG is again ploughing its own furrow, as it remains connected to the traditions of its forebears in its own independent and technologically driven way. This stands in contradiction to the rest of the world, where for the overwhelming majority the Internet has not affected their religious beliefs.[13]

Exhibit 12
The Internet Brings the ADG Closer to Religion



Source: Booz & Company–Google Arab Digital Generation Survey 2012

RECOMMENDATIONS

These shifts in cultural and social mores, driven by technology, may result in less desirable outcomes if they are not managed properly. For example, the Arabic language is already under pressure in the virtual world—whereas Arabic speakers represent 5 percent of the world's population and are growing at a faster rate than those of many other languages, online Arabic content is less than 1 percent of the total.[14] Similarly, given the religiosity of the ADG, leaders in the region need to take proper care to ensure that the extremist views that have challenged the region over past decades are not rekindled through lack of guidance and awareness.

Regarding language, regional leaders can devote more resources to creating Arabic digital content that is meaningful, interesting, and educational for the ADG. For example, the King Abdullah Initiative for Arabic Content aims to focus on digital content, infrastructure development, and Arabization, among other goals. Similarly, the UAE's twofour54 initiative, overseen by the Abu Dhabi government and intended to create an Arabic media and entertainment industry for the MENA region, is another example of efforts to preserve and develop the Arabic and Islamic heritage.[15] Such initiatives generate Arabic material that engages with the members of the ADG and that is created by them, as opposed to what the increasingly obsolete "old" media of print, radio, and TV do, which is broadcasting to them.

Regarding other issues such as religion, policymakers can embrace the religiosity of the ADG and use it for socially and economically productive activities. This entails fostering an understanding of religion that is exciting and empowering in a productive and constructive manner—away from extremist, destructive views that have threatened regional stability by exploiting vulnerable young minds. Indeed, the Internet can be used to spread religious tolerance and open-mindedness among members of the ADG, who stand apart from others through their education level and sophistication.

Impact on Institutions

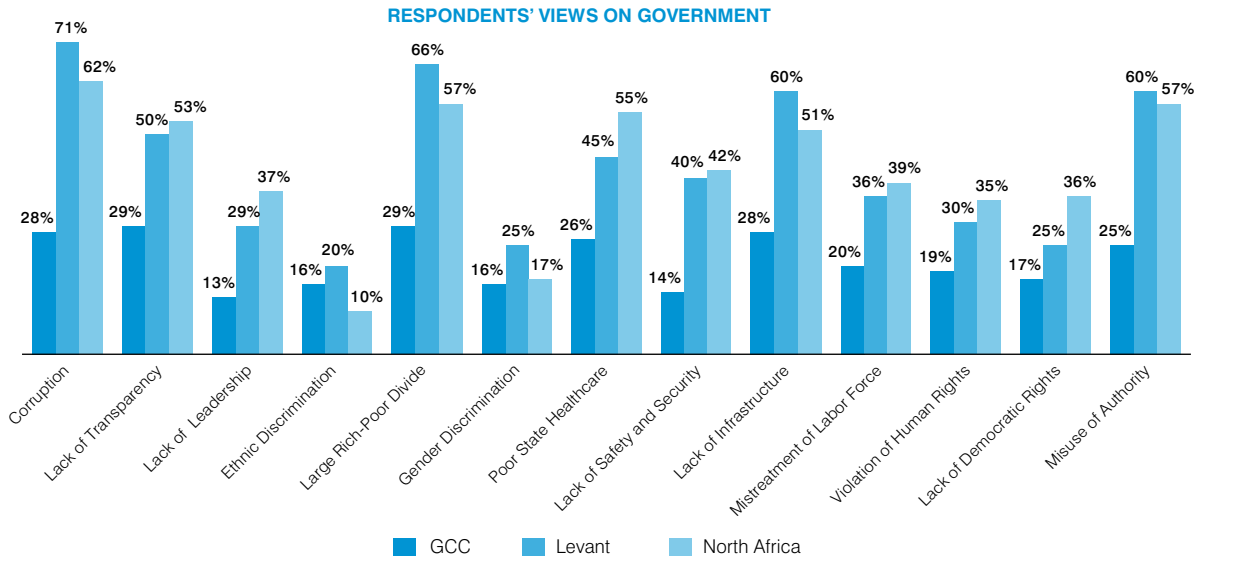
In addition to its effect on society, the ADG will influence institutions in the MENA region in four principal areas—government, the private sector, education, and healthcare.

Government

As noted earlier, regional governments have taken strong steps to digitize their societies, through infrastructure investments and by introducing competitive forces to the delivery of telecom services. Yet regional governments have yet to use digital tools to actively engage their constituents. The ADG expects social media to be transparent, crowd-sourced, and responsive. However, the engagement efforts of some governments to date have been slow, hierarchical, and unresponsive.[16]

The events of the Arab Spring underscore this phenomenon, as many among the ADG have become quite outspoken about the issues they face and the progressive changes they expect (*see Exhibit 13*). Usage

Exhibit 13
The ADG Feels Regional Governments Have a Range of Problems



Source: Booz & Company–Google Arab Digital Generation Survey 2012

patterns during that period show that social media played a significant role in helping citizens organize. Facebook subscriptions in the region increased an average of 30 percent between January and April 2011. In Egypt and Tunisia, the number of daily tweets peaked with an increase of 140 percent and 160 percent, respectively, between January 1 and mid-March 2011.[17]

Although those events led to significant political upheaval, their technological aspect is in line with similar—though less disruptive—shifts around the world, as an increasingly educated and digital population has begun demanding greater accountability from the state, and leaders have responded by becoming more connected and more transparent. The Internet has allowed politicians to communicate their positions to the public, to outline and explain their goals, and to build loyalty and confidence in their leadership. The Obama administration, for example, created the White House White Board to put out videos on YouTube to better explain its policies. At the same time, President Barack Obama and his presidential rival, former Governor Mitt Romney, are augmenting their presidential campaigns by hosting video chats on the Google+ social network to connect with voters and answer their questions.

In the MENA region, while there is still much work to do, some national governments have made strides in this area. In Egypt, for example, the Internet was a critical tool for streamlining the voting process during the recent presidential election. Google established a portal specifically for the election, featuring information about the individual political parties running for posts, as well as information on major issues such as the economy, education, foreign relations, and social justice. Visitors could even look up the location of their individual polling stations.

Similarly, Saudi Arabia established the King Abdul Aziz Center for National Dialogue in 2003 to encourage communication among Saudis and has now added technology to its tools for citizen engagement. In September 2011, the center conducted a TV interview with the Saudi minister of education, His Highness Prince Faisal bin Abdullah, including live questions submitted from the public via Facebook.

Some MENA leaders are in constant touch with citizens through social media venues. In the UAE, Sheikh Mohammed Bin Rashid Al-Maktoum, the vice president of the UAE and prime minister and ruler of Dubai, has over a million followers on Twitter, a platform he uses to take on daily questions from the UAE and around the world in Arabic and English.

E-Government Services

Another equally important function of governments today is the provision of online public services for constituents, such as payment of bills and fines, commercial registrations, visa-related transactions, and the like. These e-government programs help reduce cost, provide international competitiveness for the economy, and can lay the ground for national technological development.[18] Indeed, the future prosperity of nations is tied to digitization of their economies,[19] and e-government, and several MENA countries have developed notable initiatives.

A recent United Nations e-government survey of 190 countries found that the six nations of the GCC lead other countries of the Middle East in terms of e-government services. The UAE ranked first in the Arab world (28th overall), followed by Bahrain (36th), Saudi Arabia (41st), and Qatar (48th). Levant countries such as Lebanon and Jordan ranked in the middle of the pack, and other Arab countries in North Africa such as Morocco and Algeria were in the bottom 30 percent.[20]

In seeking to implement better e-government services, clear challenges remain for policymakers across all of the Arab world, but particularly for countries in the Levant and North Africa. These challenges include underutilization of e-services compared with traditional services. (Although the ADG has expressed a clear demand for e-government, it is ahead of the overall population in many of these countries.) There is also insufficient public awareness about the availability and security of such services, among other factors.

The survey results support this. For example, online payment of government services or fines is widely available in GCC countries. Despite this, 42 percent of the ADG in GCC countries are seemingly unaware that such services are available. This is more so for the older ADG age group in the GCC. About 49 percent of those between the ages of 25 and 35 were not aware of the provision of such services.[21]

Survey Results Regarding Government

Interestingly, respondents do not put regional governments at the top of the list regarding sectors in need of ICT improvement. Of six possible options, government was lowest on the list, behind healthcare, education, energy/utilities, financial services, and public transportation. In other words, governments do not require major restructuring in order to better meet the needs of the ADG.

Rather, they simply need to leverage existing technology in more strategic ways, to provide services more effectively and better engage with constituents. For example, respondents want an online platform to connect with political leaders. Interestingly,

despite their near-constant contact with friends online, the majority of ADG members have not used any online platform to connect with their government leaders. Yet many say they would use such a service if it were available. More than half of Egyptian respondents (56 percent) said that they are likely to use such a service, compared with 28 percent in Algeria.

The main prospective use for such a platform is to give a suggestion (cited by 43 percent of respondents), to voice opinions about political or social matters (39 percent), or to compliment the leadership (29 percent).

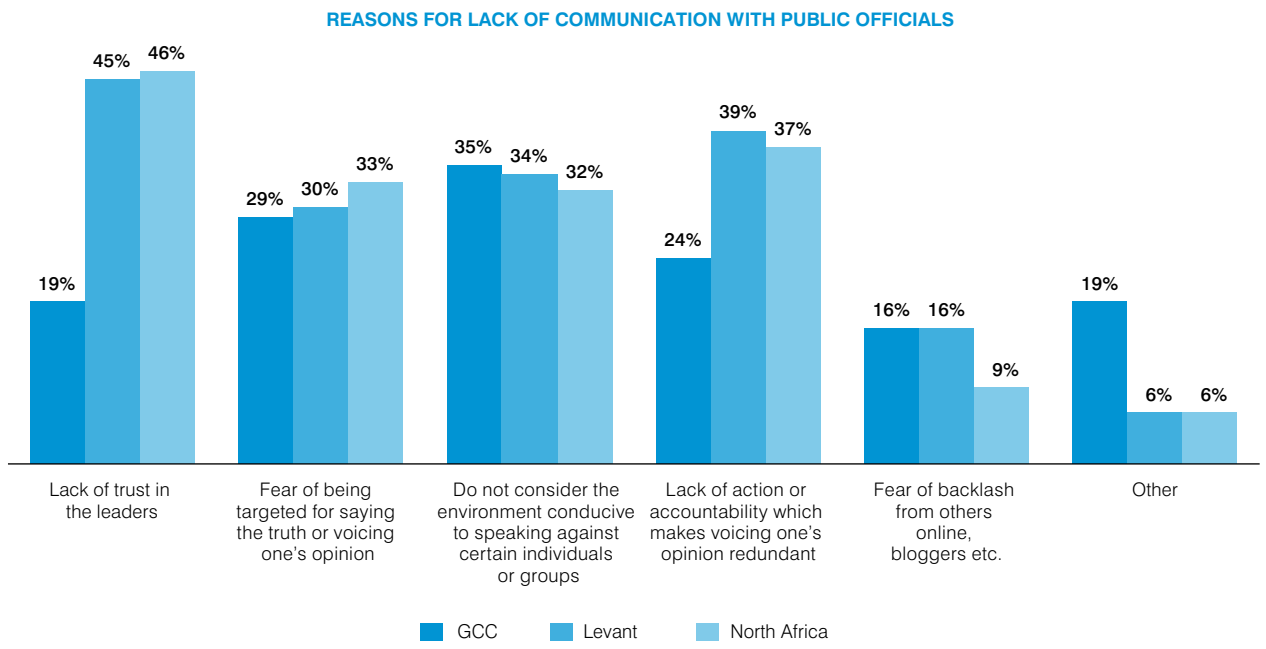
Given that many of these reasons are benign, why hasn't the ADG made more concerted efforts to use the government communication platforms that are in place? The main reason cited is a lack of trust in their leaders (*see Exhibit 14*). Similarly, other ADG members simply do not consider the political environment conducive to an honest and forthright discussion.

The qualitative results support this. "We weren't able to criticize any public figure or authority, because one word from them could ruin our lives," said one Egyptian male during a focus group. "After the revolution, we're freer to object and voice our opinion."

Although that perception of potential consequences for those who speak out still lingers in parts of the region, others among the ADG understand the role that social media has played in fostering political change thus far. "The Egyptian revolution was through the Internet," said a female from Egypt. "If these sites did not exist, there would not have been any revolution." That role will continue, with or without the acquiescence of governments. "Technology helps political activists by spreading their thoughts. It reduces their suppression," said an Egyptian male from the 15 to 25 years of age bracket.

Governments must understand this force, and leverage it to beneficial purposes. While the rapid shifts of technology among the ADG represent a potential disruption to all governments, it is worth noting that the ADG is markedly idealistic and hopeful for the future. Its members do not seek to agitate and create political change for its own sake. Rather, like other youth populations around the world,

Exhibit 14
ADG Communication with Leadership Must Be Strengthened



Source: Booz & Company–Google Arab Digital Generation Survey 2012

they want to use technology—or any other tools at hand—to improve living conditions for themselves and their fellow citizens.

This sentiment was summed up by a female focus group participant from the UAE. "I would like to be part of the change in the future, because I want to participate in my country's improvement and development," she said. "I want to provide and share my knowledge and skills to help my country attain the highest level of prosperity and progress."

Furthermore, respondents expressed a strong demand for e-government services, with varying priorities among countries. Among Egyptian respondents, the top preference is an online capability to report corrupt practices (cited by 64 percent of that country's survey participants). As one Egyptian male put it, "Provide a service that delivers complaints to the proper authorities, instead of going through the usual bureaucratic process." In addition, survey respondents want an online application to register vehicles (cited by 42 percent of Emiratis), and an online ID service (the most sought-after application across the region, cited by 57 percent of respondents) (*see Exhibit 15*).

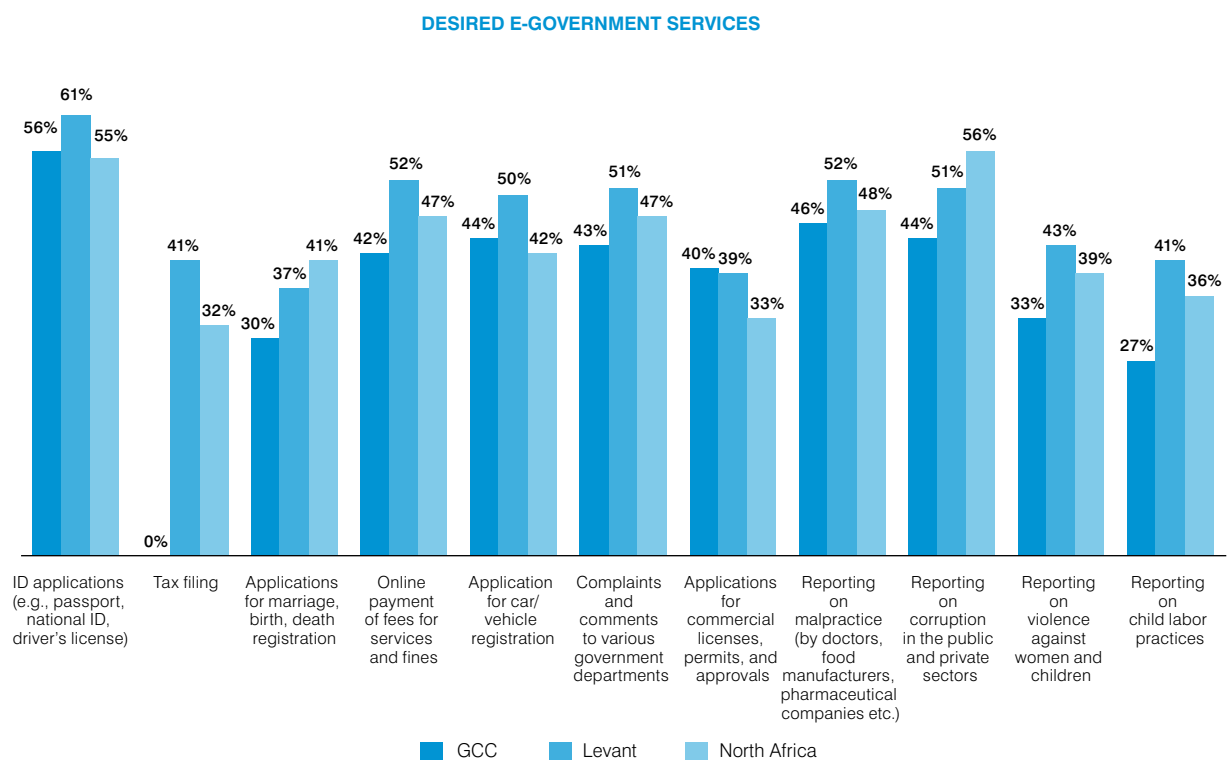
RECOMMENDATIONS

Digital technology is increasing the expectations of transparency and accountability from government bodies and officials. These expectations will likely gain momentum over time and across countries. There are four main venues for government agencies or representatives to connect with their citizens:

- *Humanize political engagement:* A first step is to soften the rigid image of political engagement that is alienating the ADG. Citizens want to know the person behind the position. The Internet represents a valuable opportunity to build citizens' trust by removing barriers and making political figures more accessible. For example, Canadian Prime Minister Stephen Harper has a sizable presence on Google+.

- *Facilitate transparency:* Politicians can also use the Internet to interact directly with their constituencies, solicit their opinions on legislative issues, and increase government transparency. In Kenya, for example,

Exhibit 15
The ADG Wants E-Government Services



Source: Booz & Company–Google Arab Digital Generation Survey 2012

the minister of finance published a draft version of the national budget for 2011–2012 on Facebook to outline Kenya's budgetary priorities. Citizens reacted overwhelmingly positively with feedback, comments, and suggestions. In Iceland, the government sought public feedback while revising the constitution; and in Morocco, residents weighed in on a constitutional amendment.

- *Improve public services:* With enhanced communication, citizens are better able to interact with public agencies to improve public services. In the U.K., a program known as "Love Clean Streets" provides a free smartphone application and website to enable people to report on visual and environmental pollution such as graffiti, potholes, and garbage. Citizens can take a photo from their mobile phones, specify the location, send it to their local authority, and track the government's progress as the problem gets fixed. In Egypt, a website called "Zabatak" (Arabic for "gotcha") allows citizens to fight crime and corruption by reporting on theft, bribes, corruption, and other social ills. These reports are forwarded to the authorities, and consolidated for the public to see where such incidents are taking place.

- *Develop e-government services:* Finally, countries in the region need to develop an appropriate model for the implementation of e-government. A couple of key points can facilitate this development. First, governments must ensure that the requisite sponsorship, commitment, and support are in place at the highest possible levels of political leadership. Second, agencies should develop a clear strategy to facilitate e-government service usage and ensure its security, focusing on the needs of the various constituent segments—mainly citizens (such as issuing driver's licenses and other forms of identification), businesses (simplifying the commercial registration process), other government entities (sharing data in a more streamlined fashion), and employees (e.g., administering pension services).

  Operationally, the government must prioritize e-government efforts by looking at its entire portfolio of services, clustering them by common service themes, and focusing on the largest service gaps and highest-demand services first. Finally, governments should leverage all possible means to increase public awareness of e-government services, including social media, text messages, e-mails, advertising, and any other available tools—digital and otherwise.

The Private Sector

Although the shifts in social and political landscapes have been significant, technology has impacted commerce in even more fundamental ways. There is ample research demonstrating that digitization drives economic growth. One Booz & Company report found that countries at the most advanced stage of digitization derived 20 percent more in economic benefits than those at the early stage, including reduced unemployment.[22]

At a more individual level, technology has rewritten the rules regarding how goods are bought and sold. All markets are now essentially global, thanks to the Internet. Consumers can choose from producers around the world, which offer a greater range of goods than at any point in history, with far more transparent pricing. This effectively increases competition—customers who are not satisfied can simply find an alternative—and it requires that companies leverage technology to deepen their brand relationship with consumers.

For example, virtually every major multinational corporation has its own profile on social media sites like Facebook, Twitter, and YouTube, and they actively use these portals to connect with younger consumers. On Facebook, more than 10 million people "like" the McDonald's company profile, and 1 million like the Apple profile. Evian water has 129 million views on its YouTube channel. Such pre-established digital audiences give these companies a strong head start when promoting new products.[23] To this end, private-sector leaders in the Arab world need to develop an effective approach to social media—and continually adapt it—in order to deliver great services to their ADG customers and even greater payoffs to their business.[24]

These effects of technology on commerce tend to be concentrated in developing markets, which have younger populations and stronger urbanization trends, both of which drive greater technology adoption. E-commerce in China, for example, is on a strong growth trajectory.

These trends are apparent in the MENA region as well. The ADG spends a tremendous amount of time engaging with companies and brands online, researching products and propositions, and building its attitude and perceptions. For many products and services that can be purchased only offline in the MENA region—such as cars, banking, telecom services, and others—these channels are critically important in shaping the purchase decision.

That said, when it comes to e-commerce, members of the ADG—and the overall population in the region—are reluctant to engage in

online commercial activities, due to a lingering mistrust of e-commerce. They increasingly research products and services online, but they still prefer to buy in person. This presents a clear opportunity for the region's private-sector players. Companies that can do the foundation work and commercialize the digital experience in innovative ways will win over consumers.

For example, in Egypt, survey respondents talked about a new website called "Dare'n'Deal," where one can place an online order for cosmetics, pay with a credit card, and pick up their purchase in-person at a store. Another site that respondents claimed to use is "Edfa3ly.com," which lets customers use PayPal to buy things from other sites for a certain fee. This website ships packages from the U.S. to one's doorstep in the Middle East.

In Jordan, new Internet shopping websites like MarkaVip are gaining popularity, as they offer payment on delivery instead of requiring a credit card at the time of purchase. MarkaVip even has a refund policy, an example of the private sector getting ahead of government in trying to reassure the public, given that Jordan has no e-commerce law to protect consumers. In fact, cash on delivery (COD) is a more popular payment method than credit cards in much of the region, particularly in the GCC and North Africa.

Although these models represent clear progress, private-sector operators in the region can benefit in more substantive ways by evolving past COD operating models. While it has helped to accelerate e-commerce in some regional markets and address payment-security concerns for some customers, COD carries real costs for companies, such as significantly longer payment cycles and higher return rates.

In addition, the lack of economic integration in the MENA region also deters online shopping. The considerable regulation of cross-border trade means that tariffs and duties tend to be relatively steep. It can be cheaper to buy an item from the U.S. and ship it to Dubai, for example, than buying from Dubai and shipping to Riyadh. The slow pace of regional economic and trade cooperation is a long-running issue for the MENA region. The uptake of digital technologies and the region's long-term economic policy needs are therefore intimately linked.[25]

Survey Results Regarding the Private Sector

Both quantitative and qualitative survey results indicate that the MENA region is currently not meeting the expectations of the ADG. They overwhelmingly research products and services online—some 90 percent of respondents claim to do so prior to making a purchase—yet they do not actually purchase online.

Some 40 percent of overall respondents did not purchase online in the past 12 months. This was fairly consistent across the region (38 percent in the GCC, 42 percent in North Africa, and 48 percent in the Levant). The country in which online purchasing was the least popular was Kuwait, where 58 percent had not bought anything online over the past year.

There are a number of drivers behind this (*see Exhibit 16*). The most frequently cited reason was that some respondents prefer to deal with a

Exhibit 16
The ADG Is Wary of Purchasing Online

Source: Booz & Company–Google Arab Digital Generation Survey 2012

The lack of economic integration in the MENA region also deters online shopping. The considerable regulation of cross-border trade means that tariffs and duties tend to be relatively steep. It can be cheaper to buy an item from the U.S. and ship it to Dubai, for example, than buying from Dubai and shipping to Riyadh.

person face-to-face, yet the broader issue is that many seem to mistrust e-commerce in general. There is a fear that websites may not be secure, or that payment authentication is insufficient. Indeed, 56 percent who own credit cards never transacted an online purchase using it. Moreover, many worry about "bait and switch" tactics, in which the item they purchase isn't the one that shows up on their doorstep.

As one respondent from the UAE put it, "There's a risk factor when you're buying online. I've heard stories about someone hacking your card or taking money from your account." Another said, "I don't want to fall in a trap. I've seen many sites where prices were really low, but I still hesitate to buy online. Even though these websites are secure, there are hacking masters around the world." Customs and shipping complications are yet another factor for many goods.

Among the ADG who do purchase online, the most popular products are airline tickets, mobile phones, clothing, and computers (*see Exhibit 17*).

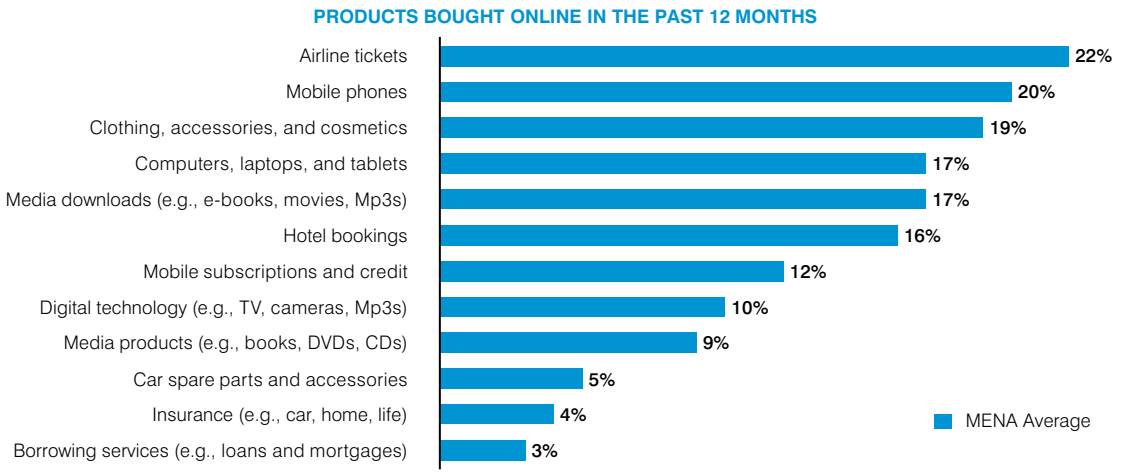
Increasing e-commerce will require more than mere reassurance of safe transactions. The region's financial-services sector will likely need to take steps to prepare for the ADG as well. In fact, 29 percent of survey respondents said that the region's financial sector needs to better align with recent communications and technology developments—another example of how the ADG perceives issues and wants them addressed.

Specifically, there is a clear need for a secure and reliable payment system network to facilitate bill payments and e-transactions. With the rising adoption of smartphones, that also means enabling mobile commerce in which the smartphone becomes a digital wallet. In addition, given that the region's consumers are still highly reliant on cash, financial-services providers must increase their investment in ATMs and banks, the provision of which has not kept pace with recent population growth.

Aside from e-commerce, the results also show several characteristics of goods and services that would most appeal to the ADG. The first is customization. More than half of all respondents (53 percent) indicated that they wanted the things they own to be customized to their individual needs, such as product colors or design features. This was significantly higher in Kuwait (at 68 percent), and lowest in Qatar and Lebanon (46 percent for both countries).

Trust is another precious commodity among the ADG. The survey results indicate that they want companies to operate in an open and transparent way, and that they will reward these companies with greater purchases. For example, some 43 percent of respondents said they would purchase a product without doing any research if they trusted the corporate brand. Similarly, 54 percent said they immediately stop dealing with companies that break their promises, and 51 percent said they would tell their friends about that negative experience. The fact that this generation communicates so actively on social networks makes this a very real threat for companies that do not operate in a forthright manner.

Exhibit 17
The ADG Buys Airline Tickets and Electronics Online



Source: Booz & Company–Google Arab Digital Generation Survey 2012

RECOMMENDATIONS

As trusted retailers with established reputations—such as IKEA and Axion—shift to online commerce, some of the concerns regarding payment security and fulfillment will ease. In the interim, however, the survey results point to several priorities for the region's private sector. Specifically:

- *Develop a secure e-payment system:* Business and government must collaborate on a secure and reliable payment system, with centralized bill collection, a network of linked banks to enable e-transactions, and a national point-of-sale system that links banks to retail shops.

- *Increase the penetration of banking services among the ADG:* This does not merely apply to market reach (which is relatively low compared to worldwide benchmarks), but also to the range and breadth of services offered to the ADG. Financial companies are leaving business on the table by not offering a tailored set of digital banking services to the ADG. They must also expand into new markets, such as expatriates and low-income consumers.

- *Introduce new payment and money transfer methods:* Companies should develop convenient options to conduct financial transactions, such as online bill payments, more streamlined retail purchases, and intra-regional and international money transfers, while providing the security assurances required by the ADG.

- *Provide customization and foster trust:* Any company seeking to sell products or services to the ADG must understand their preferences. These include customizable features on products, and—more broadly—a trustworthy business model that does not seek to take advantage of customers. Members of the ADG are far more willing to discuss their experiences (both good and bad) regarding their interactions with individual companies. Online brand reputations are valuable assets, and social networks give customers a greater platform to voice their opinion and potentially impact those reputations. In short, customers now have greater power, and companies must be prepared to accommodate this.

- *Leverage new technologies such as OTT and IPTV:*[26] For "over-the-top" (OTT) and Internet Protocol Television (IPTV) players, e-commerce not only allows more targeted, measurable advertising but also provides a way to harness consumer data and information. Although there are some differences between the two technologies—IPTV is costlier and more proprietary than OTT—they both allow content providers to turn traditionally one-way information flows into interactive, two-way flows. OTT and IPTV allow television viewers to immediately buy a product they see on television, or inquire about services they see advertised. This information can help major retailers, giving them even greater access to consumers and tailor more effective promotions and marketing campaigns.[27]

Education

The education sector is another key institution that will likely be shaped by the ADG. Education is a core service that governments provide to citizens in order to improve the nation's overall well-being, yet the ADG—and many other segments of society within the region—remains dissatisfied with the current state of education offerings.

Overall, the sector suffers from poor quality in core education and support services. As measured by results such as literacy rates or standardized test scores, the MENA region falls short in comparison to other parts of the world. At a fundamental level, many school systems do not have coherent strategies for delivering higher-quality education to their students. This issue is being exacerbated by demographic trends. Population growth is fueling demand for a greater number of students to be educated—and resulting in increased education costs—without clear funding for such initiatives, particularly outside of the GCC.

Private schools are one potential option to address current needs, both through established foreign operators and local players (such as GEMS Education and Aldar Academies, private-sector school operators, and others). Yet the region suffers from an opaque regulatory system that keeps many school operators and investors out of play.

To be clear, MENA countries have made sizable investments in education in recent years. For example, Saudi Arabia allocated 26 percent of its 2011 budget (SAR150 billion, or US$40 billion) to education and training.[28] This investment came in response to a notable expansion in the country's education sector. The number of students in primary, intermediate, and secondary schools increased by nearly 1,200 percent in the four decades prior to 2009. The number of teachers and schools showed similar growth (though these numbers all started from a low baseline).[29]

Other education metrics show similar progress. Literacy among young people ages 15 to 24 has increased dramatically and will approach 100 percent in Bahrain, Qatar, and Oman

by 2015, with Kuwait, Saudi Arabia, and the UAE close behind.[30]

Nonetheless, although these steps have helped close the gap with other parts of the world, MENA governments still have much work to do to improve both access and quality regarding education. Large investments do not always translate directly into improved performance. Students from the region consistently score low in international benchmarks, such as the Trends in International Mathematics and Science Study (TIMSS), which measures students' learning achievements on a consistent basis across countries. In the 2007 study, GCC countries scored in the lowest possible category in both science and math.[31] Regional scores on the OECD's Programme for International Student Assessment (PISA) show similar results.

Without early rigorous preparation in technical disciplines, students at the university level tend to study the humanities, perpetuating the region's insufficient volume of graduates in science, technology, engineering, and math (STEM) fields. Several MENA countries have made progress in this area recently, but there is still much work to be done. A recent executive opinion survey conducted by the World Economic Forum ("Global Competitiveness Report 2012–2013") found that many Arab countries are perceived to have relatively low human capital capabilities—reflected, for example, by relatively lower availability of scientists and engineers and lower quality of scientific research institutions—as a result of the comparatively low number of STEM graduates.

The region also suffers in comparison to other countries when assessing students' mean number of years in school (primary and secondary). In countries such as the U.S. and Norway, students attend on average more than 12 years of school, whereas in the GCC, the highest number (in Bahrain) is 9.4 years. In the UAE, the number is 9.2 years; in Saudi Arabia, it is 7.8 years; and in Kuwait students on average attend just 6.1 years of school.[32]

Technology represents a prospective solution to these issues. Because it is so pervasive in the region, and such a powerful means of transmitting information, it is particularly well-suited to education. Specifically, technology offers the means to increase fair access to education for all, including citizens in remote areas. It also facilitates teaching approaches that spur critical thinking. These benefits extend to all people in the region, not just those of school age. Technology can promote life-long learning, such as through modular e-learning programs that help citizens acquire enhanced skills—or new skills. This can help re-engage citizens in learning, particularly those who may have dropped out of the system at an early stage.

To date, several governments have made sizable investments in education technology, such as smart classroom equipment, digital learning materials, and enhanced connectivity. However these investments have not yielded the desired improvements. Teachers in many schools lack the basic pedagogical readiness to effectively lead a classroom, and they do not have the specific technological skills to use these new tools to enhance the learning process.

Survey Results Regarding Education

Because members of the ADG are the principal "customers" for education, they are acutely aware of these issues, and they express a consistent belief that the region's education system is not adequately preparing them for the job market. The most pressing issues they point to are outdated curricula and teaching methods, which emphasize repetition and memorization rather than the independent critical thinking needed to compete in today's global markets.

Survey respondents make this point clearly:

- 29 percent believe the curriculum and teaching methods are poor
- 23 percent believe the quality of teaching staff is below par
- 29 percent believe the quality of education infrastructure (such as buildings, environment, classrooms, and equipment) is poor
- 40 percent believe that schools insufficiently prepare students for the job market

One notable example of how the region's schools are falling short is their insufficient incorporation of technology in the classroom. One in three respondents said that the technology used in schools is poor. In fact, young people in the region are far more likely to use digital technology for entertainment or to chat with their friends than they are to enhance their education. In part, this issue stems from simple infrastructure: online access from education institutions is almost absent in the region. An international comparison shows that almost 16 percent of Internet users go

online from schools and universities; however, that number is 3 percent in our survey, and as little as 1 percent in other studies (*see Exhibit 18*).

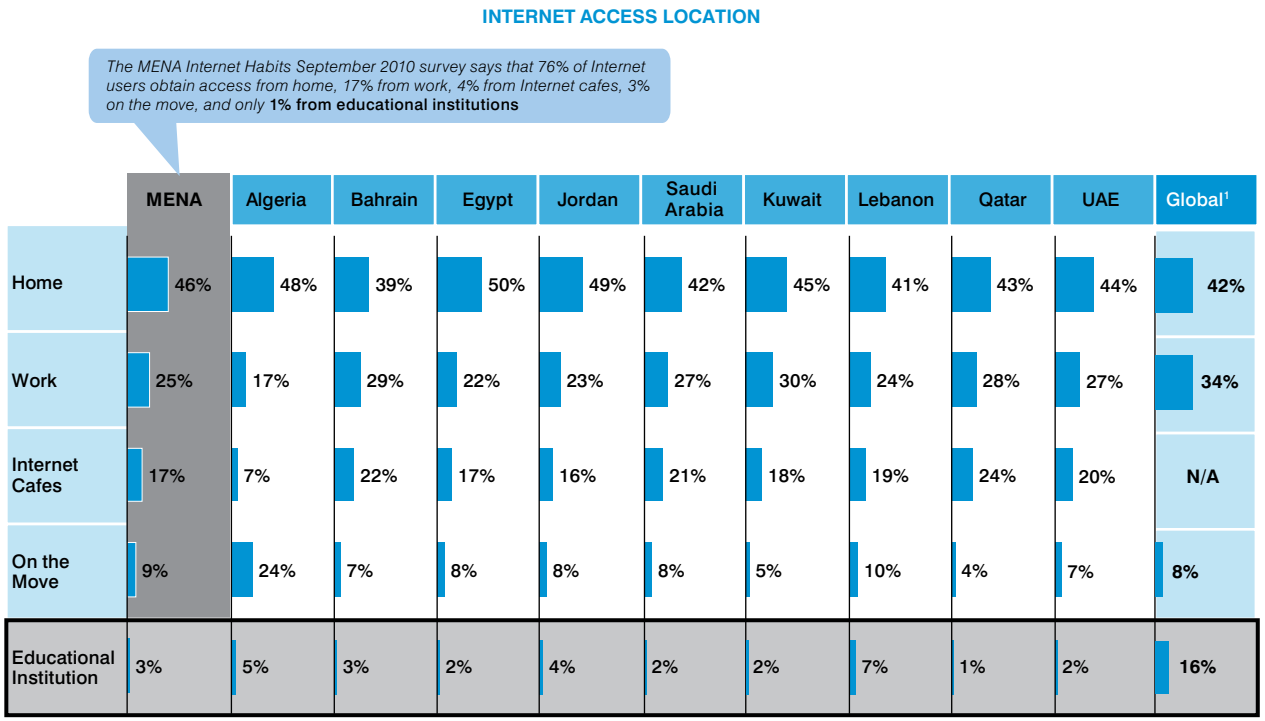
Overall, education ranks second behind healthcare on the list of sectors in greatest need of improvement through ICT, according to respondents. In Egypt, a particularly high percentage of respondents (38 percent) believe that education is the sector most in need of ICT enhancement. In fact, Egyptians rate their education system particularly harshly, with the majority stating that the curriculum, teaching methods, staff, infrastructure, and technology are all of a low standard. On the other hand, respondents in Qatar and the UAE (Emirati nationals) view their education system far more positively. Preparation for the job market appears to be a significant problem across the majority of countries.

The qualitative results support these findings. As one woman from Egypt noted, "Abroad, they teach the right way. They're more practical than us. Here, we only study for exams, but abroad, they research as well. That's much better." A male from Jordan echoed this: "There isn't enough practical learning in Jordan. I graduated university and found out that I'm unable to write formal e-mails."

What do students want instead? Those in Egypt and Jordan stressed interactive teaching, in which technology is used to inject an aspect of fun into learning. In Algeria, respondents want virtual lessons taught by the highest quality teachers from around the world. In the remaining countries, most respondents want to adopt provisions for students to use school-provided laptops, private computers, or tablets in class.

Worth noting is that educators and policymakers in the region need not develop these solutions entirely on their own. There are examples of schools overseas—and even in the region—that can serve as models. Sweden, which has a reputation for experimental education, is developing a primary-level "school without walls." Known as Vittra Telefonplan, the

Exhibit 18
ADG School Internet Access Is Lower Than in Advanced Countries



[1] Average of Australia, New Zealand, Sweden, Taiwan, U.S., and Portugal.
Note: This was a multiple response question; answers were normalized to 100%. N/A = not available.
Source: Research on media consumption and habits of MENA Internet users conducted by Effective Measure in conjunction with Spot On PR, September 2010; Bayt.com and YouGov, "Internet Usage in the Middle East," (September 2011); WIP 2012; Booz & Company–Google Arab Digital Generation Survey 2012

program incorporates unconventional classroom design and a heavy reliance on technology. Each student starts the year with a MacBook, and all teaching happens through that platform.[33]

Within the region, the Abu Dhabi Education Council is building a number of environmentally sustainable schools, to replace the outdated designs of older facilities. For example, many older schools were designed with extended hallways and open areas, but that left some classrooms so small that teachers cannot incorporate modern teaching methods such as team-teaching or group activities. Other older schools in Abu Dhabi do not have basic elements such as science laboratories. The new designs, by contrast, will be far more conducive to contemporary teaching methods that incorporate technology.[34]

At the university level, some institutions in the U.S. are leveraging technology to make their course offerings available around the world, to anyone with an Internet connection. Schools such as Stanford, Princeton, California Institute of Technology, the University of Pennsylvania, and Duke have partnered with a nonprofit organization called Coursera to make digital versions of university courses.[35] Other schools are working on similar initiatives. Massachusetts Institute of Technology offers access to free lecture notes, exams, and videos through a program known as OpenCourseWare; the school does not even require registration.

These are ambitious, and as yet unproven, ventures, but they should be used as models to educators and policymakers in the MENA region. To be clear, technology is not a cure for all of the region's education problems. Rather, it is a tool that, if implemented and leveraged effectively, can address many of the issues and help meet the evolving needs of the ADG.

RECOMMENDATIONS

Given that education cuts across sectors, all stakeholders in the region will need to collaborate on improving the sector to better meet the requirements of the ADG. Specifically:

- *Digitize schools:* First and foremost, governments must enact legislation and regulations to promote the adoption of technology in education. In addition, governments must enhance the education environment, by investing to connect schools to a secure broadband connection, and equipping classrooms with up-to-date, digitally driven learning tools and software. Nevertheless, technology is not an ingredient that policymakers can simply add to schools and expect to generate results. Rather, educators must understand its purpose to use it correctly to enhance learning.

  Along these lines, teacher training programs are essential. Before even turning to technology, the region must ensure that all teachers have the correct fundamental pedagogical skills in place. These include differentiated teaching and learning pegged to the needs of individual students, and continuous assessment. Once that foundation is in place, training can integrate advanced technology. To that end, all current teachers should undergo education technology courses designed and mandated by the school or government. For people currently studying to become teachers, education technology should be embedded into the training program. In addition, as with any organization, technology can drive efficiencies in school administration and management. These efforts can sizably reduce administrative costs, lowering total overhead at a time when many school systems in the region are struggling to align resources with demand.

- *Integrate the public sector:* Governments must factor into any digitization initiatives in the classroom. In particular, they must enact favorable legislation and regulation, such as licensing and accreditation of e-learning programs, and privacy laws regarding information sharing. They also must make ICT an integral part of national education standards.

- *Leverage private schools:* Private-sector education players can play a role as well, especially given the greater demand for education among the region's growing population, which some governments may struggle to meet. International private schools—meaning those schools that don't teach the standard government curriculum—are not constrained by these requirements and can thus develop more innovative approaches to education, including digitization. That said, many private schools do not have the required funds to fully digitize. Managed IT services would address this budget constraint, by freeing capital expenditures to be reallocated to operations. A clarified set of regulations regarding establishing operations in the region would help to attract foreign operators.

- *Incorporate the private sector:* In addition to private school operators, the entire private sector of the region should collaborate with the education sector to better develop a pipeline of human capital that can meet workforce needs. Initiatives in this area could include developing a technology-intensive curricula and learning resources. In addition, technology companies can play a more direct role in training teachers on the best use of technology in the classroom.

  For example, in the U.S., Cisco has developed several initiatives that offer technology hardware and training while

incorporating the unique requirements of individual schools and teachers. One program, called iZone, uses funding from Cisco and other local businesses to better incorporate technology in the classroom. Teachers get direct training from Cisco, and the company's engineers observe classes to see how the technology is actually being used. About 100 schools now take part in a basic version of iZone, and 25 schools take part in a more comprehensive initiative, in which each student gets a laptop and schools get "innovation coaches" who consult with them on potential technology-driven reforms.[36]

Healthcare

Finally, the healthcare sector in the MENA region is ripe for a digitization transformation. As with their education systems, governments in the region have significantly improved their healthcare systems over the past 30 years, yet those upgrades have not kept pace with changing demographics and other dynamics in the region.

MENA healthcare expenditures have been growing at an average rate of 15 percent a year since 2005, and though they account for only about 5 percent of GDP (compared to levels in OECD member countries of about 10 percent), this is projected to become a more significant share of total economic output in the coming generation.[37] Such increased spending stems from a number of factors, including substantial population growth, changing demographics such as longer life expectancy, and increasing rates of "lifestyle" ailments (noncommunicable diseases including obesity, diabetes, and heart conditions).

Other factors sustaining healthcare spending growth are the region's severe structural inefficiencies and quality gaps. High-population areas suffer from insufficient bed capacity, and care centers are experiencing a lack of skilled resources in key specialties. These issues result in long waits and limited access to sophisticated treatment, particularly in rural areas. In some cases, people seek treatment abroad at government expense, which unnecessarily drives up the cost of healthcare. Information management is a problem as well. A lack of patient data-sharing among providers leads to redundant tests and examinations, and increased hospital stays.

Human capital is yet another issue—the region suffers from an acute shortage of physicians and other healthcare professionals. Although some governments have managed to recruit foreigners to fill the gaps, this approach is expensive and unsustainable. It does not solve the underlying issue but merely perpetuates it: governments spend too much on inefficient means of delivering care to their citizens and remain dependent on foreign talent, without building the internal skills and capabilities needed to become self-sufficient in the delivery of care.

All of these issues are relevant to the ADG, particularly the concern over lifestyle issues. The young people in our survey spend prodigious amounts of time online, which often comes at the expense of other leisure pursuits, including exercise. The recent Booz & Company survey on the region's youth found that the most preferred leisure activity was surfing the Internet, followed by watching TV and being at home with family. Virtually all leisure activities among this generation are sedentary. Roughly one in three young people exercises once a week or less, and another 19 percent get no physical exercise at all. Those who don't exercise cite "laziness" and "lack of time" as the two principal reasons. However, many say they simply do not have access to a convenient facility.[38]

To some extent, this is understandable—in some Gulf region countries young people do not have a wide range of leisure activities available to them. There are a limited number of cinemas, theaters, and concert halls, along with few public parks, walking paths, or football pitches. Yet this has real ramifications for a part of the world that is already burdened with growing health issues and spending.

Survey Results Regarding Healthcare

As with education, our survey results show that members of the ADG are all too aware of these challenges. Across the region, respondents cited healthcare as the single sector that is most in need of an upgrade centered on ICT (*see Exhibit 19, p. 36*).

Digitization can clearly drive efficiencies in the provision of care across the MENA region; however, these efforts must strike a delicate balance that acknowledges privacy considerations and other sensitivities. As with commerce, the ADG researches medical services and information online, but still prefers to deal with an individual face-to-face. Only 27 percent of respondents are comfortable with having an online consultation with a medical professional; another 45 percent are either "not comfortable" or "not at all comfortable."

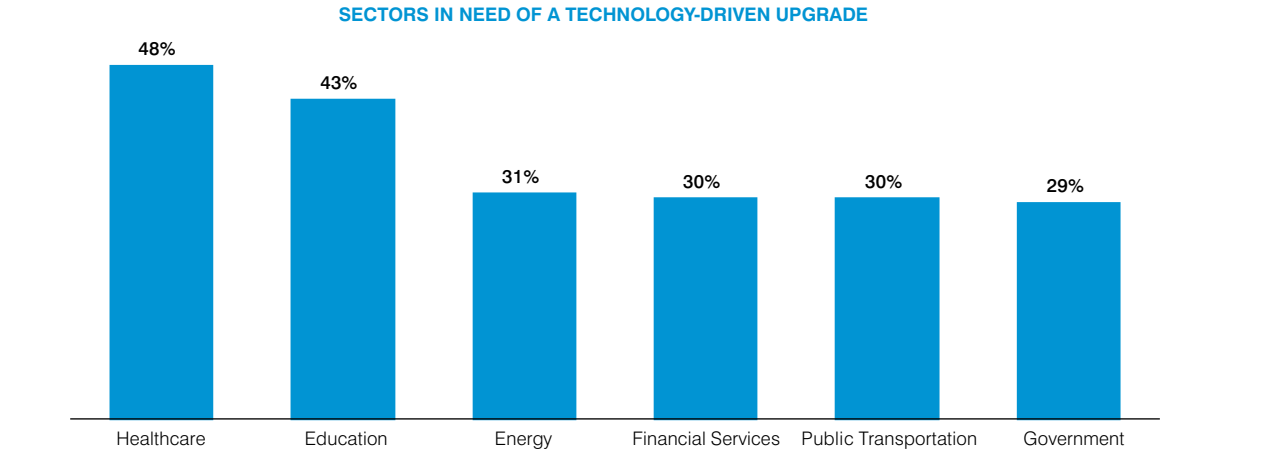
Sharing digital medical records with remote medical service providers on the Internet triggers a similar unease. Almost half of all respondents are not comfortable with this, demonstrating clear barriers to personalized medical care through the Internet. Respondents are even less comfortable with requesting prescription drugs ordered on the Internet, particularly in Saudi Arabia, where nearly two-thirds of respondents (63 percent) said they are uncomfortable with this (*see Exhibit 20, p. 36*).

Fundamentally, most members of the ADG use the Internet for healthcare the way they use it for

commerce—conducting research online but preferring to deal with an actual person, face-to-face, for the actual service. Both males and females reported accessing online healthcare services as an anonymous way to seek advice on topics that they were not particularly willing to talk to their doctors about face-to-face, such as highly personal matters. For example, one male in Saudi Arabia told of researching "a description of a psychological disease for my friend. The consultation was for a type of treatment and, thank God, it was really beneficial." Another male from Egypt acknowledged looking up information on impotence and getting rid of stomach fat.

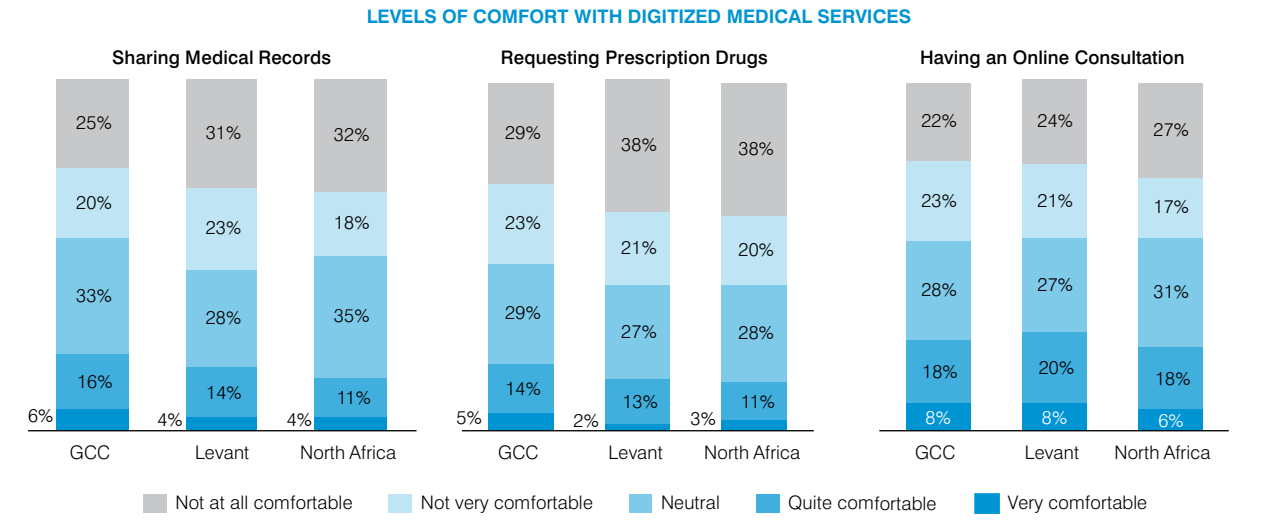
Finally, the qualitative survey results show that some ADG members are aware that technology can lead to unhealthy lifestyles. Said one female

Exhibit 19
The ADG Believes Healthcare and Education Need ICT Improvement



Source: Booz & Company–Google Arab Digital Generation Survey 2012

Exhibit 20
The ADG Is Not Comfortable with Digitized Medicine



Source: Booz & Company–Google Arab Digital Generation Survey 2012

from Jordan, "We used to play outside, but nowadays no one plays outside. Everybody plays inside at home with their PlayStation, Xbox, or on Facebook."

RECOMMENDATIONS

Considering the scope of the region's healthcare challenges, and the impact of the sector on the well-being of citizens, all stakeholders should take steps to leverage digitization in providing better care across three parameters: quality, access, and affordability. Electronic health (e-health) initiatives that apply information technology to the delivery of healthcare services to patients and management of clinical information can drive improvements in all three. Specifically:

- *Collect and aggregate information to drive quality:* A major benefit of e-health initiatives is medication management, or the reduction of adverse drug effects caused by the lack of access to pertinent patient information at the point of care. This has life-and-death consequences for some patients. Accordingly, healthcare providers should leverage digitization to ensure that they have the most accurate and up-to-date information about drugs, conditions, and patient histories, which will lead to fewer errors and better health outcomes.

  To promote consistent data collection and comparison, governments should standardize information systems across healthcare providers. Although this is a considerable challenge, the existence of large, state-run systems in some countries allows for easier standardization than in overwhelmingly private systems. In addition, governments should also establish a centralized information system that would aggregate all medical data from healthcare providers into a public health database, enabling advanced data analysis, quality and performance measurement, and electronic medical records, among other benefits.

- *Enhance facilities utilization to improve access:* Among private-sector healthcare players, the priority should be leveraging technology to improve access. Elements could include reducing visits through remote treatment/consultation (for those patients comfortable with such procedures), which will free up beds for treatments that truly require them; shortening hospital stays with automated processes; and avoiding duplicate tests via better data management of health records and patient histories.

- *Automate administrative processes to reduce costs:* All stakeholders in the healthcare ecosystem should also simplify and automate processes across the value chain. For example, regulators can introduce e-claims, hospitals can streamline their billing and coding processes, and insurance companies can automate their back-end processes.

- *Offer credible health information:* The government and the private sector should collaborate to provide credible health information for citizens through e-health initiatives such as the technological platforms that people use and trust, including digital applications, social networks, and web portals. In particular, this can be used to educate the ADG about lifestyle diseases. Another aspect of this is using technology to spur young people to exercise. A number of digital applications, such as workout planners, leverage technology to spur healthier lifestyles.

CONCLUSION

Members of the ADG are increasingly willing to express their opinions and make choices regarding their own lives. This trait applies to all young people, but it is being enhanced by technology and by factors that are unique to the Arab region, where traditional authority structures and institutions have long held sway over the behavior of individuals. Although this generation understands that things may not change overnight, they are more willing than their parents to push the edges of the socioeconomic and political envelopes in order to make their voices heard. Nothing has encapsulated their desire for change more than the events of the Arab Spring.

Indeed, with fast and growing developments in communication technologies, the growing Arab youth generation has not only become more digital than previous generations but has also developed concomitant characteristics that, in many ways, distance its members from the region's prevailing norms and traditional practices. These characteristics are a result of many factors, including exposure to other world cultures, the constricting socioeconomic and political conditions they have grown up with, and their great desire for change. These characteristics are reflected in our survey results, which show a complex ADG that is a study in contrasts:

- Its members are increasingly connected via social networks, yet potentially more disconnected from friends and even family when it comes to direct interactions.

- They love to go online to research products and discuss them, but they're wary of actually buying goods through the Internet.

- They are curious and acquisitive of knowledge, but they have little access to the Internet through schools or universities.

- They are willing to question the status quo and to express dissatisfaction through online expression and civic activism, but shy away from actually engaging with government officials.

- They question what came before, but they redefine tradition and previous practice rather than rejecting it.

- They are independent thinkers whose beliefs are strengthened rather than subverted by the wide horizons offered to them online.

This generation has high expectations regarding digitization in many aspects of Arab society. Those demands are not being met. In business, for example, online transactions and payments are highly reliant on cash, resulting in unnecessary costs for companies that wish to sell to this generation. A perceived lack of Internet security and insufficient channels of distribution and delivery hamper economic activities and economic growth. Schools and universities lack the proper online infrastructures to enhance the cause of education and research, while the healthcare sector can be much improved via digitization in terms of quality, access, and cost. Finally, by catering to the demands of the ADG's members, prioritizing services, and communicating with them, governments can better serve their people and strengthen their legitimacy.

In sum, with about 90 million Internet users in Arab countries, growing at over 23 percent annually,[39] the ADG will become a force with tremendous potential to transform the MENA region along societal, political, and economic dimensions. How this energy is directed is currently unpredictable. Institutions and corporations in the region therefore have a rare opportunity. They can adapt to digital technology in order to more effectively connect and communicate with the ADG, thus harnessing its energy productively. Now is the time to combine the power of technology and the promise of the ADG.

ENDNOTES

[1] See ITU's World Telecommunication/ICT Indicators Database and the World Bank's "World Development Indicators" (WDI) for the latest figures.

[2] "Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2011–2016," Cisco, 2012.

[3] "World Internet Project International Report" (third edition), USC Annenberg School Center for the Digital Future, 2012.

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[5] Euromonitor International 2012, with data from ITU/OECD/ national statistics.

[6] United Nations, "E-Government Survey 2012: E-Government for the People," 2012; http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf.

[7] This estimation is based on several factors: the assumption that 95 percent of people who access the Internet daily have a social account; Internet users in the 15 to 35 age range represent 77 percent of the Middle East 15 to 35 age group population (according to the Econsultancy report "Middle East and North Africa Digital Consumer Report," October 2011) and will represent 62 percent in 2014; and Internet users who access the Internet more than once a day in the Middle East are between 70 to 80 percent (according to the ADG survey). An s-shaped curve is assumed for growth.

[8] See, for example, Al Masah Capital Limited, "MENA Family Business Report: The Real Power Brokers?" 2011; http://www.scribd.com/doc/94062042/MENA-Family-Businesses-Report-17-Apr-11.

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[10] Forrester Research, "European Technographics Benchmark Survey, Q2 2009."

[11] This is a weighted average.

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[13] See "World Internet Project International Report" (third edition).

[14] See, for example, "Insights for a Digital Planet: Best Ideas from the Abu Dhabi Media Summit 2011," Booz & Company, 2011; http://www.booz.com/media/uploads/BoozCo-Insights-Digital-Planet-Abu-Dhabi-Media-Summit-2011.pdf.

[15] For more on the twofour54 initiative, see http://twofour54.com/en/article/about-twofour54/overview.html.

[16] Ramez Shehadi, Fady Kassatly, Danny Karam, and Michael Cherfan, "Digital Spring: MENA Governments Must Speak the Language of Social Media," Booz & Company, 2012.

[17] Dubai School of Government, *Arab Social Media Report,* vol. 1, no. 2, May 2011.

[18] See, for example, Ramez Shehadi and Raymond Khoury, "Customer-Centric E-Government: Modernizing the MENA Region's Public Sector," Booz & Company, 2009.

[19] See Bahjat El-Darwiche, Milind Singh, and Sandeep Ganediwalla, "Digitization and Prosperity," *strategy+business,* Autumn 2012; http://www.strategy-business.com/article/00127?gko=efe69&cid=20120904enews.

[20] "United Nations E-Government Survey 2012," annexes; http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan048590.pdf.

[21] The issue of awareness is further substantiated by the results related to the question on tax filing services: unlike in other countries such as Egypt where income tax exists, in GCC countries taxes are not levied on citizens; all GCC respondents confirmed their "awareness" that such services would not be available through e-government for that reason.

[22] Karim Sabbagh, Roman Friedrich, Bahjat El-Darwiche, and Milind Singh, "Maximizing the Impact of Digitization," Booz & Company, 2012.

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[26] IPTV is TV-style content delivered via Internet protocol directly to the consumer via a closed network.

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[29] Saudi Arabian Monetary Agency (SAMA), Research and Statistics Department, *46th Annual Report 2010: The Latest Economic Developments,* Kingdom of Saudi Arabia, 2010: p. 375.

[30] United Nations Development Programme (UNDP), *Arab Human Development Report 2005,* Table A4-10: Literacy and Enrolment: p. 296; World Bank, "World Development Indicators 2010."

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[32] World Bank, 2009. The data for GCC countries, except the UAE, is for the total population, including expatriates.

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[37] Detlef Schwarting, Jad Bitar, Yash Arya, and Thomas Pfeiffer, "The Transformative Hospital Supply Chain: Balancing Costs with Quality," Booz & Company, 2011.

[38] "Youth in GCC Countries: Meeting the Challenge," p. 52.

[39] We consider 20 Arab countries for which data of Internet users are available. These include Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, Syria, Tunisia, United Arab Emirates, and Yemen. See Euromonitor International, with data from ITU/OECD/national statistics, 2012.

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Beirut
Cairo
Doha
Dubai
Riyadh

North America
Atlanta
Boston
Chicago
Cleveland
Dallas
DC
Detroit
Florham Park
Houston
Los Angeles
Mexico City
New York City
Parsippany
San Francisco

South America
Buenos Aires
Rio de Janeiro
Santiago
São Paulo

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We believe passionately that essential advantage lies within and that a few differentiating capabilities drive any organization's identity and success. We work with our clients to discover and build those capabilities that give them the right to win their chosen markets.

We are a firm of practical strategists known for our functional expertise, industry foresight, and "sleeves rolled up" approach to working with our clients. To learn more about Booz & Company or to access its thought leadership, visit booz.com. Our award-winning management magazine, *strategy+business*, is available at strategy-business.com. For the Ideation Center, Booz & Company's leading think tank in the Middle East, visit ideationcenter.com.