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The Internet in the Arab Gulf Cooperation Council (AGCC): Vehicle of Change

Taghreed M. Alqudsi-ghabra[1], Talal Al-Bannai[2], Mohammad Al-Bahrani[3]

[1]College of Social Sciences, Kuwait University, the State of Kuwait,
[2]Kuwait Fund for Economic Development, the State of Kuwait,
[3]Ministry of Communication, the State of Kuwait

Abstract: The Internet start was somewhat slow in the Middle East, but the twenty-first century witnessed its rapid spread across the Middle East, especially in the Arab countries of the Gulf Cooperation Council, known as the AGCC. Even though these countries share political, geographic and economic commonalities, a level of observed and documented disparity exists among them. This paper is a comparative descriptive profile of the start of the Internet in the six countries of the AGCC, the laws and regulations that govern the flow and control of information, and how the spread of revolts affected the information flow in these countries. As changes in the Middle East are very much enabled by the Internet and its various tools, studies such as this one that attempt to organize scattered information are very important, timely, and needed.

Keywords: Internet, AGCC, Information control in AGCC, ICT infrastructure in AGCC

Introduction

The acronym GCC refers to the Cooperation Council for the Arab States of the Gulf, commonly known as the Arab Gulf Cooperation Council (AGCC). The AGCC is a political and economic alliance of the six Arab Gulf countries. It was founded on May 26, 1981 to encourage military, economic, and political coordination and cooperation among its members. They are: the Kingdom of Bahrain, the United Arab Emirates, Kuwait, the Sultanate of Oman, Qatar, and the Kingdom of Saudi Arabia (Cooperation Council for the Arab States of the Gulf, 1981). The AGCC countries are developing countries that rely significantly on oil exports, although Oman and Bahrain do so to a lesser extent. They are all ruled by monarchies with some kind of autocratic system of leadership that is represented by a council or chamber of representatives, as in Bahrain or the National Assembly in Kuwait. These countries are known for their high expatriate populations, a phenomenon in all AGCC countries that constitutes a social and economic fact of life ("List of GCC Countries and Nations", n.d.).

Contribution and limitations of the study

The study at hand is a comparative description of the start of the Internet in the six AGCC countries. Collecting, examining, and analysis of scattered records, studies, and information both in print and online have been conducted. The Open Net Initiative's country tests of censorship and surveillance are examined for every

Address correspondence to Taghreed M. Alqudsi-ghabra, Department of Library and Information Science, College of Social Sciences, Kuwait University, P.O .Box 5969, Safat – 13060, Kuwait, Phone: (+965) 2498 8888, Fax: (+965) 2480 1092, Taghreed.alqudsi@ku.edu.kw

country included in the study at hand. This is a continuously evolving situation, but the descriptions included are derived from the latest data available until the end of the year 2011. The inequity in the amount of information provided on each country was unavoidable. However, every effort was made to balance the coverage between them. Comparing the Internet situation in the six AGCC countries provides an important contribution to the understanding of the development of ICT and its societal impact in these countries. Two census numbers for every country are provided; one of them is obtained from the CIA World Factbook. In no way the numbers provided are absolute, yet this is meant to aid in interpreting the study's results. Acquiring census numbers locally from each country would have created some type of inconsistency, as each of them has a different government, different issues, and population composition that are significantly masked by lack of transparency, let alone the fact that their censuses are not the most up-to-date.

The study is organized alphabetically by country name. Each country's section starts with a brief historical background, the development of the Internet and its relevant attributes, Internet hosts and ISPs, and relevant laws and policies affecting Internet access. Comparisons between the different AGCC countries, when information is available regarding, for example, ICT infrastructure including the digital opportunity index (DOI), E-Readiness, and penetration levels all shed light on the development and future trends in those countries. An analytical comparative section concludes the country profiles' section.

Definitions

Networked Readiness Index (NRI)

Published annually by the World Economic Forum and INSEAD as part of its annual publication, the NRI is an index that measures a country's tendencies to exploit opportunities offered by information and communications technology. It contains three components: the ICT environment; the readiness of the community's key stakeholders (individuals, businesses, and governments) to use ICT; and finally, the ICT usage among these stakeholders. The index was originally developed by the Information Technology Group, which worked at Harvard University's Center for International Development until 2002 ("Global information technology", 2011).

Digital Opportunity Index (DOI)

A measuring tool of information society attributes was developed by the United Nations Telecommunications Union (UNTU), based on 11 agreed-upon ICT indicators grouped in three clusters: opportunity, infrastructure, and utilization. The DOI is used to indicate the digital divide level and is increasingly becoming a standard domestic and universal measure ("Digital Opportunity Index", 2010).

Open Net Initiative (ONI)

The Open Net Initiative is a collaborative project between the Citizen Lab at the Munk Centre for International Studies, University of Toronto; the Berkman Center for Internet & Society at Harvard University; and the SecDev Group (Ottawa). ONI studies and reports on the Internet's status and all relevant surveillance around the world. The analysis that the ONI provides is based on technical tools, factual research, and analysis.

Total Country Connectivity Measure (TCCM)

According to the Arab Advisors Group (2010a), the Total Country Connectivity Measure (TCCM) is calculated by adding household mainline penetration, cellular penetration, and Internet user penetration rates in each country. Household mainline penetration is measured by dividing the number of residential mainlines by the number of households in each country. The TCCM indicates the extent of connectivity of individuals through fixed lines, cellular, and/or the Internet. Because overlap is unavoidable, the calculation measure is usually taken as an indication of ICT level of connectivity.

An evolving, varied, and disparate market

Most Middle Eastern countries, generally, and the AGCC countries, in particular, continue to invest heavily in their ICT infrastructure as a part of economic development, including technologies intended to overcome ICT infrastructure hindrances and to enhance Internet access through WiMAX, broadband, and 3G mobile technologies. Figure 1 illustrates the growth of the number of Internet users over the last decade in the AGCC countries.

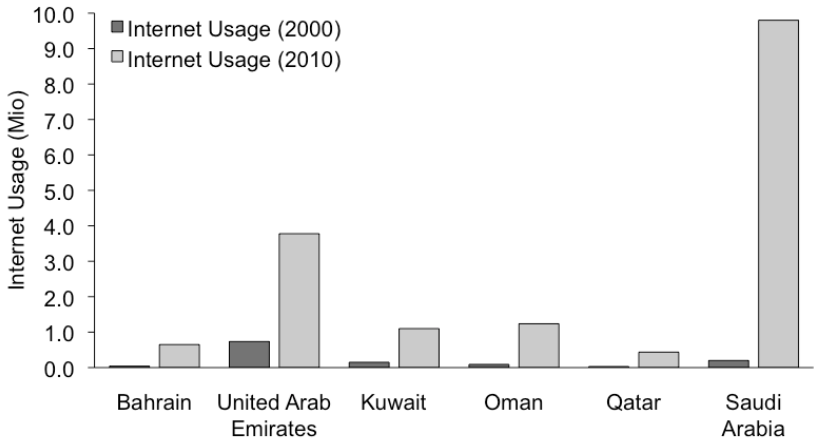

Figure 1. Internet usage growth in Arabic Gulf Council Countries (AGCC) 2000–2010.

According to Internet World Stats' latest data (see Table 1), as of August 2010, only Bahrain is on the list of the first 60 Internet *highly penetrated* countries with a penetration rate of 88%, compared to 34.8% in 2009. Kuwait, Qatar, and the UAE appear in the list of the top 57 *intermediately penetrated* countries for 2009 with penetration rates of 34.7%, 42.4%, and 48.9%, respectively. On the other hand, Saudi Arabia and Oman are listed as *low penetrated* countries with penetration rates of 22.7% and 10.3%, respectively ("Alphabetical list of countries", 2011). Diversity and disparity among these six countries are clear and significant. Population size ranges from less than a million in Bahrain and Qatar, two to three million in Kuwait and Oman, five million in the UAE, to 26 million in SA. Interestingly enough, as Table 1 shows, Bahrain's small population has the highest Internet penetration rate, while Saudi Arabia, the AGCC country with the largest population has the lowest penetration rate.

Table 1
Alphabetical List of Arab Gulf Countries' Statistics and Population Internet Use, Penetration, and Growth

Country	Symbol	Size (sq. km.)	Population (latest)	Internet users	Internet penetration	Data date
Bahrain	BH	694	738,004	649,300	88.0%	June 2010
Kuwait	KW	17,818	2,789,132	1,100,000	39.4%	June 2010
Oman	OM	309,500	3,027,959	1,465,000	48.4%	March 2011
Qatar	QA	11,521	848,016	563,800	66.5%	March 2011
Saudi Arabia	SA	2,149,690	26,131,703	11,400,000	43.6%	December 2010
UAE	AE	77,700	5,148,664	3,555,100	69.0%	March 2011

Note. From http://www.internetworldstats.com/list2.htm.

Profiles of the six arab gulf countries

Kingdom of Bahrain

An archipelago on the Persian Gulf, Bahrain's challenge has always been its small size, limited and declining oil reserves, and the need to balance sectarian tension between its two main Muslim sects, the Sunnis and Shiites. Bahrain consequently has positioned itself as an international banking hub and attracted multinational corporations. Its economy is the most diversified among the AGCC countries; ICT and transportation, in addition to the presence of multinational corporations, all contribute to making it attractive to multinational companies. Since achieving independence from Great Britain in 1971, Bahrain has been ruled by a Sunni hereditary monarchy that appoints a prime minister. According to the Initiative for an Open Arab Internet, Bahrain's population is 720,000, of whom 235,000 are non-Bahrainis („Implacable adversaries: Arab governments and the Internet", 2010).

Internet services were first introduced to Bahrain in 1995 by the Bahrain Telecommunications Company, known as BATELCO (BIX). According to the Central Intelligence Agency (2011a), Bahrain has a modern fiber-optic infrastructure and an expanding mobile market. It is the landing point for the submarine of Fiber-Optic Link around the Globe (FLAG), the cable network that provides links to Asia, Middle East, Europe, and the United States. According to the 2008 Arab Advisors Group report, Bahrain is considered a leader in the ICT area, the most connected country, based on the growth of fixed lines and number of Internet connections, which was 210.4 percent per person, while the regional average for the AGCC is 135.37 percent. Internet World Stats

("Alphabetical list of countries", 2011) estimated the number of Internet users to be 649,300 as of June 2010, with 88.0% penetration (see Table 2).

Table 2
Percentage of Internet Users in Bahrain 2000–2010

Year	Users	Population	% of Population
2000	40,000	699,400	5.7%
2003	195,700	707,357	28.0%
2008	250,000	718,306	34.8%
2009	402,900	728,709	55.3%
2010	649,300	738,004	88.0%

Note. From http://www.internetworldstats.com/me/bh.htm.

As Table 2 shows, ITU estimated the number of Bahrain's Internet users at 649,300 by June 2010, which constitutes 88.0% of the population, and the number of Facebook users at 253,100 as of August 31, 2010. The table below illustrates the growth in the number of Internet users over the last decade in Bahrain.

Latest data obtained from the TRA Web site ("Market information", n.d.) of Bahrain, as Table 3 shows indicate that the number of Bahraini Internet users increased from 50,621 in 2004 to 114,502 in 2008. ICT witnessed a noticeable development when the WIMAX network was introduced by Mena Telecom in 2008; this service provides high-speed wireless for both voice and data services („Implacable adversaries: Arab governments and the Internet", 2010).

Table 3
Bahrain Internet Services According to the Telecommunication Regulatory Authority (TRA)

	Year				
Service	2004	2005	2006	2007	2008
Dial-up subscribers	35,665	28,867	21,466	6,425	4,508
Broadband	14,956	21,432	38,628	73,563	109,994
Total	50,621	50,299	60,094	79,988	114,502
Internet penetration	6%	6%	6%	8%	10%
Broadband penetration	2%	2%	4%	7%	10%

Note. From http://www.tra.org.bh/en/marketstatistics.asp.

The online community of Bahrain is a small but dynamic one that the government has historically tried to promote. The eGovernment Authority initiated, with the cooperation of the Bahrain Internet Society, an award to encourage the development of creative content on the Internet. As of January 2008, there were over 535 Web sites based in Bahrain, focusing on 25 different themes (e.g., public forums); 59 Web sites for governmental organizations; and approximately 200 blogs, the majority of which are anonymously authored.

Legal Framework. The Telecommunication Regulatory Authority (TRA) was established by Decree No. 48 of 2002 to liberalize and regulate the ICT market in Bahrain. As a regulatory party, it imposes penalties and other measures to any "illicit use of the network, including the transmission of messages that are offensive to public policy or morals" (OpenNet Initiative, 2009a, p. 3). As of 2008, there were 22 ISPs licensed by the TRA, Batelco being the largest and oldest among them (OpenNet Initiative, 2009a, p. 2).

A special unit to monitor and block certain Web sites was established by the Bahrain Ministry of Information. Decree no. 48 of 2002 has provisions to allow "security organs to have access to the network for fulfilling the requirements of national security" (OpenNet Initiative, 2009a, p. 4). Law no. 47 of 2002, which regulates the press, printing, and publishing activities, faced objections from civil society activists and Web site owners. According to OpenNet "the Ministry of Information has blocked and shut down more than 100 pornographic, political and anti-Islam Web sites" (OpenNet Initiative, 2009a, p. 3). The Ministry of Information initiated some new regulations in 2005 to register Web sites and keep track of their number and activities.

The ONI has asserted that the Bahraini 2002 Press Law is used to censor both printed and online media . The site owner of Wattani.net has been blocked in Bahrain, accused of violating the law, and consequently sent by the Bahraini Ministry of Information to the Public Prosecution Office. The Press Law was also used by the Ministry of Information to ban publications that "harmed the regime, the official state religion, morality or different confessions in a way likely to cause a breach of the peace" (OpenNet Initiative, 2009a, p. 3).

The 2002 Press Law was amended in May 2008, eliminating prison sentences for journalists and prior censorship. However, another law, the Penal Code and Anti-terrorism Law, can be used to charge and imprison journalists. On January 5, 2009, the Ministry of Information issued a decree that allows it to block a Web site without a court order. Furthermore, it requires ISPs to prohibit "access to sites blocked by the ministry, whether by Internet address, use of a proxy server or any other means" (OpenNet Initiative, 2009a, p. 3). Another decree issued in January 2009 required all ISPs to block Web sites "containing pornography or material that may provoke viewers to violence or religious hatred" (OpenNet Initiative, 2009a, p. 3). The wording of the decree is general, so it can be interpreted to include political and human rights sites, as well as Shia community forums and sites that contain the word "proxy" as part of their domain names. The Ministry of Information claimed that some of the sites were wrongly blocked and that it is investigating technology choices to help prevent similar accidental blocking (OpenNet Initiative, 2009a, p. 3).

The Internet has generally served as a platform to debate issues that cannot usually be debated in the traditional printed media. According to the ONI, "authorities have blocked a number of news, religion, human rights, and humor Web sites but users manage to access those using proxies" (OpenNet Initiative, 2009a, p. 5). In July 2010, several bloggers, both Sunni and Shia, whose writings were perceived by the government as "hate speech inciting sectarian divisions," were detained briefly. Webmasters and bloggers responded by signing a code of ethics in September 2008 "to promote tolerance and mutual acceptance for users of electronic media" (OpenNet Initiative, 2009a, p. 5). The Al Wefaq Islamic Society, Bahrain's largest Shiite Islamic parliamentary bloc, announced its interest in imposing sanctions on prostitution and reviewing the relevant penalty code. The ONI found that more than 1,000 people had subscribed to an online network promoting prostitution and that more than 50 Web sites had links to prostitution networks in Bahrain (OpenNet Initiative, 2009a, p. 5).

Reporters Without Borders (n.d.) reported that many Web sites have been blocked as a result of criticizing the government and parliament. In October 2006, the Bahraini government blocked www.bahrainrights.org, the Bahrain Center for Human Rights Web site, and www.mahmood.tv, one of the most popular blogs in Bahrain. The ONI's (2010) in-country tests on Bahrain's ISPs found filtering in Bahrain, to focus on "Web sites that are critical of the Bahraini government, parliament, and the ruling family" (OpenNet Initiative, 2009a, p. 5). Batelco, the largest ISP in Bahrain, has filtering that has blocked several Web sites, including the Bahrain Center for Human Rights (http://www.bahrainrights.org), the Haaq Political Movement (http://www.haaq.org), Ahrar Bahrain (http://www.ahraralbahrain.com), Bahrain Martyrs Forums (http://www.shaheedbh.com), *Bahrain Times* (http://www.bahraintimes.org), Bahrain Forums (http://www.montadayat.org), Alduraz Network Forums (http://www.alduraz.net), and Bahrain Online (http://www.bahrainonline.org). Most of these Web sites no longer exist. The ONI (OpenNet Initiative, 2009a, p. 5) testing found few secular and leftist Web sites that criticize Islam or try to convert Muslims to be blocked (e.g., http://www.ladeeni.net, http://www.rezgar.com, http://www.islameyat.com, http://answering-islam.org, and http://www.arabchurch.com).

The blocking of Web sites extended to Web sites operating from outside of Bahrain, such as the Cairo-based Arabic Network for Human Rights Information, which is critical of human rights practices in Bahrain, in addition to the Arabic regional portal and blog-hosting service Al-Bawaba (http://blogs.albawaba.com). Interestingly enough, the ONI (2010) testing found limited blocking of pornographic and lesbian, gay, bisexual, and transsexual (LGBT) content, besides proxies and anonymizing services („Implacable adversaries: Arab governments and the Internet", 2010).

A broad range of topics is filtered, yet until January 2009, Bahrain allowed relatively unfettered access to the Internet. A January 2009 Ministerial decree required ISPs to install official filtering systems. The ONI (OpenNet Initiative, 2009a, p. 5) found the filtering of content in "officially prohibited categories" to be pervasive, an indication that ISPs have started to use a commercial filtering system. Additionally, ISPs started displaying a block page referring to the Ministerial decree. The ONI (OpenNet Initiative, 2009a, p. 5) found an increase in the number and variety of banned Web sites that criticize the Bahraini government, parliament, and royal family. In addition to the filtering of pornography and gay and lesbian material, it was found that content related to the conversion of Arab Muslims to Christianity and secular leftist Arabs banned as well.

Inspired by the revolutions in Tunisia and Egypt, the protest movement to establish a democratic system of government in Bahrain has shaken the kingdom since mid-February 2011. Many Bahraini journalists have been arrested for having published news about the crackdown or have been accused of taking part in the demonstrations. The authorities grant foreign media short-stay visas of just 48 hours, so they can't cover the clashes. In some cases, they have been threatened or questioned. Reporters Without Borders currently lists one netizen imprisoned in Bahrain. It furthermore lists Bahrain as number 119 out of 178 on the latest freedom world index (Reporters Without Borders, n.d.).

State of Kuwait

Kuwait, a wealthy AGCC member, is ranked eighth in the world and the second among the AGCC after Qatar in terms of GDP per capita (Central Intelligence Agency, 2011b). However, for the year 2011, Kuwait's GDP rank became 10, preceded by Qatar and the United Arab Emirates. Kuwait's income relies heavily (95%) on oil revenues (Central Intelligence Agency, 2011b). The labor force in Kuwait is 2.158 million, among which 60% are non-Kuwaiti, a fact that makes this a very fluid and continuously changing environment. Additionally, this has tainted the accuracy of any statistics or census attempted. According to the Open Arab Initiative for an Open Arab Internet, Kuwait's population is 2.3 million, 1.3 million of whom are non-Kuwaitis (Central Intelligence Agency, 2011b). However, the CIA World Factbook (Central Intelligence Agency, 2011b) estimated the population to be 2,595,628 million as of July 2011.

Kuwait does not have an independent ICT regulator because of the absence of measurements to liberalize the fast-expanding Kuwaiti market generally. The Ministry of Communications acts as the regulator and operating entity for ICT services. Free local calls between land lines are provided, and land line calls to mobile phones within Kuwait are provided free of charge by the Ministry of Communication, which also controls the international gateway and does not have an interconnection system with any of the mobile operators. Moreover, the Ministry also controls all international charges and, thus, monopolizes the mobile sector and prevents local mobile operators from offering promotions and discounts on overseas calls. In Kuwait, there exists a very contradictory and interesting situation that is characterized by the continuous expansion of the mobile network and lack of regulatory frameworks. This lack of an independent regulator caused Zain, one of Kuwait's main mobile providers, to move its headquarters to Bahrain in 2007 (OpenNet Initiative, 2009b, p. 2).

Internet use in Kuwait spread in the aftermath of the Gulf War in 1991, followed by the liberation of Kuwait from Iraqi occupation in 1990. Three reasons contributed to the spread of the Internet in Kuwait: Kuwait's high per-capita income, the acquisition of media technologies as a social status indicator, and the government's support for techno-consumerism and its free imports into the country (Wheeler, 2006).

Dr. Malek Ghloum Hussain, an electrical engineering faculty member at Kuwait University, former assistant to the President of the Kuwait University and former Director of Computer Services Center (KUCS), is credited with establishing the first Internet services in Kuwait and the Middle East ("The history of the Internet in Kuwait", 2006). Kuwait University was connected to BITNET, which was provided by International Business Machines (IBM) of Kuwait; the connection was extended to the global BITNET via IBM Bahrain. The main usage of the network at that time was restricted to e-mail. In the aftermath of the liberation of Kuwait in 1991 and due to the total destruction of the technological infrastructure in Kuwait generally and in Kuwait University specifically, great efforts were required to rebuild the university computation services offered to the academic community. During the 1990 Iraqi invasion of Kuwait, Kuwait University's libraries were totally ransacked. Thus, gaining access to the information resources of other academic and research institutions outside Kuwait was a viable solution to aid the academic community, given its crucial need for resources.

Dr. Hussain's efforts to accomplish access to other outside collections culminated, in 1992, in the National Science Foundation agreeing to extend Internet services to Kuwait University, free of charge, for a period of two years. Those services were available only to U.S. institutions and some selected institutions and organizations overseas at that time. The massive need for resources at Kuwait University in the aftermath of the destruction resulting from the Iraqi invasion made it possible for Kuwait to be the first country connected to the Internet.

The lack of technological resources and the lack of a well-trained staff were two significant hindrances. Kuwait University had to establish 14 LANs to be connected with the LANs on the other side specifically for this purpose and employed more than 100 trained staff from around the world to accomplish this endeavor. Within one year, in 1993, the Internet operation was fully transferred to the private sector in the United States, a move that made its spread possible ("The history of the Internet in Kuwait", 2006).

Legal Framework. According to the International Telecommunications Union's (ITU) latest data (2010), 13 competing ISPs operate in the Kuwaiti market, regulated by the Ministry of Communication. Kuwait's Internet users numbered 1,100,000 as of June 2010, with 39.4% penetration. The main ISPs in Kuwait relied on cable Internet. Broadband Internet became affordable, as competition led to lower prices. The number of 1 Mbps DSL subscriptions surpassed the number of dial-up subscriptions, as the latter were being replaced by faster DSL at lower prices. DSL encouraged wireless connectivity in homes, and the number of Wi-Fi Internet access points multiplied across Kuwait. Hotspots are now available, providing Internet connections in many places such as shopping malls and coffee shops. Currently, the Ministry of Telecommunications is working on a project to upgrade the fixed-telephone line network to fiber optics in order to replace the old landlines connecting businesses and houses to telecom providers (OpenNet Initiative, 2009b, p. 2). Statistics obtained from the ITU

estimated the number of Internet users in Kuwait to be 1,100,000 as of June 2010, 39.4% of the population (OpenNet Initiative, 2009b, p. 2).

As seen in Table 4, according to the ITU, 13 competing ISPs operate in the Kuwaiti market, regulated by the Ministry of Communication. Kuwait's Internet users numbered 1,100,000 as of June 2010, with 39.4% penetration.

Table 4
Percentage of Internet Users in Kuwait 2000–2010

Year	Users	Population	% of population
2000	150,000	2,424,422	5.8%
2003	567,000	2,530,012	22.4%
2005	600,000	2,630,775	22.8%
2008	900,000	2,596,799	34.7%
2009	1,000,000	2,692,526	37.1%
2010	1,100,000	2,789,132	39.4%

Note. From http://www.internetworldstats.com/me/kw.htm.

According to the ONI (OpenNet Initiative, 2009b), Kuwait's 2006 Press Law allows for the publication of more newspapers, yet it authorizes the imprisonment of journalists for making insulting references to Islam or for articles deemed to be "against national interests". Kuwait has generally fewer Internet cafés because of its high per capita income, which enables most Kuwaitis to own personal computers. Nevertheless, Internet café owners are required by the above mentioned law to maintain a record of customers' names and IDs and to submit them to the Ministry of Communications (MOC), if requested.

Kuwait, a wealthy country among the Arab Gulf countries, has been the exception with regard to its mobile penetration rates being the lowest in the Arab Gulf and, interestingly enough, on a par with those of poorer countries, such as Jordan and Egypt. Unlike the rest of the region, multiple SIM cards are still uncommon in Kuwait. Major operators Zain and Wataniya enjoyed a long-time duopoly. However, this is expected to change since a third operator is on the market causing penetration rates to rise. The increased expected competition is causing the Average Revenue Per User ARPU to fall down. Zain's Kuwaiti ARPU is twice that of Bahrain (Research and Market, 2011). Even though Kuwait is a continuously growing ICT market, the move of Zain, one of its leading mobile operators, to Bahrain caused the country's ICT sector a big setback (OpenNet Initiative, 2009b, p. 1).

Articles 37 and 39 of the Kuwaiti constitution guarantee freedom of the press and freedom of communication and people's rights to "express and propagate" their opinions, as long as they are "in accordance with the conditions and procedures specified by law" (OpenNet Initiative, 2009b, p. 2). The government and private ISPs both filter the Internet using reasons of immorality, political sensitivity, terrorism, and instability. Needless to say, Voice over Internet Protocol VOIP is illegal in Kuwait.

According to the ONI (OpenNet Initiative, 2009b), in August 2007, a Kuwaiti journalist was arrested when an anonymous user posted some comments on his blog that insulted the emir of Kuwait. He was later released on bail when the person who posted the anonymous comment was identified and because the comments were posted without the journalist's consent. The Kuwaiti authorities called for the blocking of YouTube on September 2008 in reaction to several videos considered offensive (OpenNet Initiative, 2009b). More restrictive laws of online activities are proposed by the government and some parliament members.

ONI country testing shows that Internet filtering in Kuwait targets "mostly Internet porn, including Arabic forums that facilitate the exchange of explicit Arabic content" (OpenNet Initiative, 2009b, p. 4). Some Web sites that promote secularism, atheism, or terrorism or that are critical of Islam are blocked. The Web site of the American-based *Arab Times*, which is critical of Arab countries, including the Kuwaiti government, was blocked as well (OpenNet Initiative, 2009b).

Kuwait holds first place among Gulf States in terms of its respect for individual freedoms, especially press freedom. Kuwaiti media is undoubtedly the freest in the region and have been closely covering tensions between the government and the parliamentary opposition that have shaken the emirate for the last few years. Lawyer and netizen Mohamed Abdel Qader Al-Jassem was arrested and imprisoned on November 22, 2010 for three months on the charge of defaming the prime minister. He was then freed, after serving 62 days of his sentence (Reporters Without Borders, n.d.).

Reporters Without Borders (n.d.) lists no netizens currently imprisoned in Kuwait, and it places Kuwait as 60 out of the 178 on the latest freedom world index.

Sultanate of Oman

The Sultanate of Oman, which borders the Arabian Sea, the Gulf of Oman, and the Persian Gulf, has always prospered through trade with the Indian Ocean; it is a country in a strategic location that has been known for its close ties to Great Britain. According to the Initiative for an Open Arab Internet (OpenNet Initiative, 2009d, p. 3), Oman has a population of 2.4 million, 600,000 of whom are non-Omani. However, the CIA World Factbook (Central Intelligence Agency, 2011c) estimated its population by July 2011 to be 3,027,959. Oman depends heavily on oil, yet its per-capita income is the lowest compared to the rest of the AGCC.

For over three decades, the state-owned Oman Telecommunications Company, the official ISP, has been in charge of developing the telecom sector in Oman. Omantel, previously the General Telecommunications Organization, started offering telecommunications services in 1970 and Internet service in 1997. Most Omani people have access to telephone lines. Mobile and fixed-line services cover 95 percent of the country, yet relative to the rest of the AGCC, Internet penetration rates are still low. According to Internet World Stats ("Alphabetical list of countries", 2011), the number of Oman's Internet users totaled 1,236,700 as of June 2010, with a penetration rate is 41.7% per ITU. According to Table 4 below, Omantel's monopoly of the market seems to be a factor. In an effort to increase competition in the local market, the Telecommunications Regulatory Authority (TRA) in March 2008 published a Public Consultation Paper asking anyone interested in establishing a new ISP for their written comments (OpenNet Initiative, 2009d). Table 5 illustrates the significant growth in the number of Internet users over the last decade, from 3.8% of the population to 41.7%, yet more than 50% of the population does not use the Internet.

To supplement the 2003 government initiative of Oman, a group of students, academics, IT professionals, businesses, and some government institutions joined together in April 2008 to launch Oman's first IT knowledge Internet platform. The project aims to bridge the information technology knowledge gap between students, professionals, and the industry sector. The Ubar Portal, developed in 2007 by the government, provides some electronic government services such as e-tendering, e-taxation, and municipal services. According to Omantel 2010 and to an agreement signed with the TRA (2010), the government is expected to launch a project that will lead to an *Oman digital society* and achieve the goal of launching 750 government Web sites. Lack of competition, lack of a well-developed information infrastructure, and high prices have caused the relatively slow spread of the Internet in Oman.

Table 5
Percentage of Internet Users in Oman 2000–2010

Year	Users	Population	% of population
2000	90,000	2,424,422	3.8%
2002	180,000	2,398,545	7.5%
2005	245,000	2,424,422	10.1%
2008	300,000	3,311,640	9.1%
2009	557,000	3,418,085	16.3%
2010	1,236,700	2,967,717	41.7%

Note. From http://www.internetworldstats.com/me/om.htm.

Legal Framework. The 1984 Press and Publication Law authorized the government to censor publications considered politically, culturally, or sexually offensive („Implacable adversaries: Arab governments and the Internet", 2010). This law stipulates that key figures are not to be criticized. Article 29 of Oman's constitution, known as *the white book*, guarantees the freedom of opinion and expression. Article 31 states that "material that leads to public discord, violates the security of the State or abuses a person's dignity and his rights" (OpenNet Initiative, 2009d, p. 3) may not be printed or published.

Filtering of pornography and gay and lesbian content is pervasive in Oman, as is filtering of any explicit Arabic content that is critical of Islam, as well as sites about illegal drugs. The authorities impose technical filtering in addition to legal and physical controls to ensure that the Internet community does not access or publish any objectionable or unlawful material. These existing laws, regulations, and practices create self-censorship among writers and publishers, both offline and online.

Omantel's terms and conditions strictly regulate Internet use in Oman. These terms mandate that users:

> Endanger national security, defame His Majesty the Sultan or the members of the royal family, be inconsistent with the effective laws of the state, undermine confidence in the fairness of the

> government, contain false data or rumors, lead to the hatred of or degradation of the government, or promote a political or ideological ideas conflicting with the general system of the country. ("Implacable adversaries: Arab governments and the Internet", 2010)

In Oman, institutions, companies, and individuals must sign an agreement recognizing that they are prohibited from publishing material that destabilizes the country or may insult or criticize the head of state or the royal family. It is prohibited to publish on the Internet any writings that:

> Questions trust in the justice of the government or creates hatred toward the government or any ethnicity or religion; promotes religious extremism, pornography, or violence; promotes any religious or political system that contradicts the state's system; or insults other states. Users must also agree not to promote illegal goods or prescription drugs over the Internet. (OpenNet Initiative, 2009d, p. 3)

The use of Internet telephony in Internet cafés in Oman is illegal. In March 2007, Oman's TRA openly banned and warned Internet café operators against providing basic voice service or facing punishments that include imprisonment and financial fines.

When Omnia.net, a popular Omani online forum, published an article in November 2006 about corruption, the administrator/moderator was banned from travel, and kept awaiting charges of defamation to be pressed against him. According to the ONI (OpenNet Initiative, 2009d, p. 3), a note in Arabic stating that the administrator was found innocent with no further explanation was added to the site in 2007.

Among other forms of communication, the Omani government monitors private communications and mobile phones. A U.S. State Department (2007) Human Rights Report stated that e-mail and Internet chat room exchanges are all being monitored, and tracked through their ISP addresses. In addition, chat room users who are critical of government officials or policies are subject to interrogation.

Article 37 of Oman's Telecommunications Regulatory Act and its subsequent amendments state that ISPs "shall maintain the confidentiality of the services provided to the beneficiaries, and shall not compromise or uncover it or uncover any of the beneficiary's data unless based on an order from a competent court" (OpenNet Initiative, 2009d, p. 5). Omantel's surveillance practices and restrictions on Internet cafés include requiring a prior floor design plan that includes terminal setup in cafés in such a way that the computer screens can be seen by the supervisor of the café. Thus, closed rooms or curtains are not allowed, and Internet café operators are required to install proxy servers to monitor and to keep a log of users' activities; needless to say, the procedure to start an Internet café is long, complex, and requires permission from Omantel, the TRA, and other government offices. It simply discourages people from doing so ("Implacable adversaries: Arab governments and the Internet", 2010).

Omantel's blocking is done using SmartFilter, an American-made commercial filtering software. Omantel's block page is done in cooperation with the ISPs; in addition, an "overwhelming number of requests from the subscribers" (Deibert, Palfrey, Rohozinski, & Zittrain, 2008, p. 353) forced Omantel to rethink its filtering policy. The block page suggests that users submit an e-mail link to any site that they feel has been wrongly blocked, an action that could result in the site being unblocked.

The ONI (OpenNet Initiative, 2009d, p. 4) in-country testing results indicate that filtering in Oman is becoming increasingly extensive and now covers content that was not previously targeted. It aims at pornographic Web sites and blocks forums that facilitate any exchange of explicit Arabic-language content. Furthermore, Web sites with content critical of Islam, such as www.answering-islam.org, www.prophetofdoom.net, and www.freemuslim.org, and Web sites about illegal drugs, such as www.marijuana.com, www.marijuana.nl, www.amphetamines.com, and www.heroin.org, have been added to the profile of blocked content. In addition, surprisingly, gay and lesbian sites remain extensively available, except for those that relate to civil rights and equality issues (www.gayscape.com and www.gaywired.com). Dating Web sites containing either sexually explicit images, such as www.adultfriendfinder.com, or gay and lesbian content, such as www.gayromeo.com, were also targeted. Some Web sites dealing with hacking and cracking were blocked, such as www.passwordhq.com and www.crackspider.net.

A journalist with the Muscat-based daily *Al-Zaman* was arrested, as a result of a complaint by justice minister Mohamed Al-Hanai about an article published on May 14, 2011. Many journalists work without permits in Oman, yet, **t**he president of *Al-Zaman*'s board, its editor, and one of its design editors will be tried for illegally employing the journalist Al-Haj without a permit from the information ministry. Reporters Without Borders does not list Oman on the latest world freedom index at all nor does it have information about as the rest of the Arab Gulf States. Consequently, no information on netizens is available (Reporters Without Borders, n.d.).

Qatar

Qatar is a country that produces oil and natural gas with revenues that made it the second-highest country in the world in terms of per-capita income. Its population estimate for July 2011, according to the CIA World Factbook (Central Intelligence Agency, 2011d), is 848,016. Qatar has become more liberal since its ruler, Sheikh Hamad Bin Khalifa Althani, assumed power and became the new Emir of Qatar in June 1995; however, political parties do not exist in Qatar. Oil and natural gas guarantee a high income for this very small state. The Qatar government has three branches: the Emir, an Advisory Council that is partially elected, and a judicial branch. Most AGCC countries have a big foreign labor population, but in Qatar, more than half the population comprises foreign workers. As of 2007, the country enjoys a high literacy rate of 93.1%, according to United Nations Development Fund (2010).

A royal decree has given Q-Tel a total monopoly in the Internet market until 2013. This monopoly, historically, has kept Internet prices high so far („Implacable adversaries: Arab governments and the Internet", 2010). Even though the 2003 constitution and its various articles protect privacy, "freedom of expression of opinion," and freedom of the press, according to the Initiative for an Open Arab Internet, some limitations on religious freedom exist („Implacable adversaries: Arab governments and the Internet", 2010). As is normally the case everywhere, journalists develop their own self-defense and self-censoring techniques when it comes to "government policies, material deemed hostile to Islam, the ruling family, and relations with neighboring states" („Implacable adversaries: Arab governments and the Internet", 2010). A state-owned Internet service provider (ISP) is used to monitor and censor unobjectionable content ("Internet filtering in Qatar", 2009).

The Internet in Qatar. The Supreme Council for Information and Communications Technology (ictQatar) was established on May 26, 2005 to draft laws and regulations establishing new ISPs, to handle e-crimes, and to ensure the protection of youth from the Internet ("Implacable adversaries: Arab governments and the Internet", 2010). Filtering in Qatar is relatively transparent and is advised by law enforcement authorities rather than a telecom regulator. Interestingly, access to the Internet is heavily restricted in spite of the high connectivity level. The blocking of pornography, political criticism of Gulf countries, and sites deemed offensive to Islam is frequent.

Qatar Telecom (Qtel) users have complained that commonly blocked Web sites have non-obscene or offensive content. Content on sex health issues is also blocked, including sites produced by academic institutions. Online privacy and circumvention tools are also prohibited. Even though political filtering is limited, journalists self-censor and avoid reporting on sensitive issues. In addition, several sexual health issues' sites – HIV, circumcision, and birth control sites – are pervasively blocked. Among them is "Go Ask Alice," a health question-and-answer Internet resource provided by Columbia University (www.goaskalice.columbia.edu). Dating and escorting services are blocked, too ("Internet filtering in Qatar", 2009). A few other Web sites that provide information on hacking and cracking are blocked. Examples are www.passwordhq.com, www.allpasswords.com, and www.superpasswords.com.

As of April 2008, broadband penetration reached 50 percent in Qatar. Qtel had approximately 1.25 million mobile users as of December 2007, indicating a more than 100 percent penetration rate in Qatar. Qtel also has about 50,000 customers connected to its 3.5G mobile network. Internet cafés can bypass Qtel's filtering regime. A local media report stated that 41 percent of young people in Qatar spend most of their summer vacations at Internet cafés, mostly surfing pornographic Web sites.

Statistics obtained from the Internet Telecommunications Union ITU ("Internet usage in the Middle East", 2010) estimated the number of Qatar's Internet users to be 436,000 as of June 2009, 51.8% of the population. Table 6 illustrates the development over the last decade in Qatar from 3.8% to 51.8% of the total population. While this growth is remarkable, a large percentage of the population is not Internet users in Qatar.

Table 6
Percentage of Internet Users in Qatar 2000–2010

Year	Users	Population	% of population
2000	30,000	624,422	3.8%
2002	126,000	768,464	16.4%
2005	165,000	795,585	20.7%
2009	436,000	833,285	52.3%
2010	436,000	840,926	51.8%

Note. From http://www.internetworldstats.com/me/qa.htm.

Legal Framework. As mentioned before, the ictQatar is Qatar's regulatory authority TRA and its main ISP. According to the ONI ("Internet filtering in Qatar", 2009, p. 3), most of the 2006 telecommunications law deals with details of competition among service providers. However, the law does not explain any details for the licensing of ISPs, other than the fact that the General Secretariat is in charge of licensing. Offenses and relevant penalties are included in the last chapter of the 2006 law, mostly related to any violation of privacy and security. Two subsets of this chapter have a broad scope: clause 6 of Article 66 states that any person who uses "a telecommunications network" or allows "such use for the purposes of disturbing, irritating or offending any persons" can be fined or imprisoned for up to one year; in addition, under clause 7 of the same Article 66, "using any facility or telecommunications service in a manner that violates the rules of this Law or other laws" is punishable. Very generally, elastic wording characterizes these two clauses, which allows their use and applicability to different cases ("Internet filtering in Qatar", 2009).

Vodafone Qatar, the second telecommunications provider in Qatar, was licensed in 2008. QTel and Vodafone Qatar were allowed by ictQatar to provide Internet telephony services to the public in July 2008, which enabled both companies to use VoIP services both for business and individual use. Businesses within Qatar are specifically prohibited from selling VoIP calls or services to the public without being licensed by ictQATAR. According to the ONI ("Internet filtering in Qatar", 2009), there have been no reports of any Internet monitoring in the country, but Reporters Without Borders (n.d.) stated that Qtel "has the means to spy on messages sent through the other ISPs". Furthermore, according to a 2008 U.S. State Department Human Rights report, the Qatar government, through the state-owned ISP, censors Internet content through a proxy server that monitors and blocks Web sites, e-mails, and chat rooms ("Internet filtering in Qatar", 2009).

ONI ("Internet filtering in Qatar", 2009) testing, done using Qtel, found that pornography, sex-related sites, and sites critical of Islam (www.answering-islam.org, www.islameyat.com, www.prophetofdoom.net) were heavily blocked. Furthermore, the ONI ("Internet filtering in Qatar", 2009) found a level of selective filtering of political content, such as www.qatarsucks.com, which exposes the poor living conditions of thousands of foreign workers. Another blocked site is www.arabtimes.com, a U.S.-based news Web site that is critical of Arab leaders generally. At Internet cafés in Qatar, according to the Qatari Foundation for the Protection of Women and Children, "90% of internet visitors are youth and teenagers. 60% of them spend their time chatting online and 75% of adolescents reviewed pornographic websites" („Implacable adversaries: Arab governments and the Internet", 2010). According to the Initiative for an Open Arab Internet, there is an obsession with pornographic sites when dealing with the issue of Internet cafés in Qatar („Implacable adversaries: Arab governments and the Internet", 2010).

Despite the fact that privately owned newspapers exist in Qatar, most of them belong to members of the ruling family. Consequently any critical analysis of decisions made by the authorities or of Qatar in general becomes highly risky. Political and financial pressures weigh heavily on the editorial line taken by newspapers. Reporters Without Borders currently lists one imprisoned netizen in Qatar. Furthermore, it lists Qatar as number 94 out of 178 on the latest world index (Reporters Without Borders, n.d.).

Kingdom of Saudi Arabia

The Prophet Muhammad, the Quran, and Islam were all born in the Kingdom of Saudi Arabia. Modern Saudi Arabia emerged in 1932, unifying the Arabian Peninsula, and has always been influenced by the strict interpretation of Wahabi Islam. This interpretation of Islam has shaped Saudi identity and state policy. A leading producer of oil and natural gas, its population estimate, as of July 2011, was 26,131,703 (Central Intelligence Agency, 2011e). Economic reform and economic diversification are ongoing in Saudi Arabia.

Political parties are banned in Saudi Arabia, so political reform is a risky endeavor. Print and non-print media are strictly controlled, and journalists exercise self-censorship. Interestingly, however, Saudi Arabia has invested heavily in several pan-Arab satellite television stations such as the Dubai-based MBC. The Bahrain-based Orbit Satellite Network, now called OSN, is another popular and growing satellite television network. However, while Saudi Arabia invested in those networks, the media environment within Saudi Arabia continues to be one of the most tightly controlled in the region, a conflicting image and a phenomenon that is very much reflected in the Saudi Internet situation as well.

The Internet in Saudi Arabia. The Saudi Telecom Company (STC) was established in 1998 by Ministerial Resolution no. 63 of 1997. As part of an effort to join the World Trade Organization (WTO), the Saudi government allowed competition in the ICT sector in 2002. STC, the country's main provider, introduced Internet service at various speeds. The kingdom's broadband penetration rate remains one of the lowest worldwide. This is expected to change with the advancement of ICT and recently introduced projects, such as rapid home fiber-optic services.

King Abdulaziz City for Science & Technology (KACST) oversees Internet services in Saudi Arabia, including the implementation of government censorship through the government's Internet Services Unit (ISU), not the Saudi Ministry of Telecommunications and Information Technology. At present, there are twenty-five licensed Internet service providers (ISPs) in Saudi Arabia offering services for customers and connecting them to the national network („Implacable adversaries: Arab governments and the Internet", 2010).

Due to the limitations on free interaction between men and women in Saudi Arabia, the Internet plays a role in socialization for women as well. According to the ONI, "a local company estimated that two thirds of Saudi Internet users are women" (OpenNet Initiative, 2009e, p. 1). Even though the Committee to Protect Journalists ranked Saudi Arabia among the 10 worst countries in which to work as a blogger, blogging is popular with a number of writers, according to the ONI (OpenNet Initiative, 2009e, p. 2), which estimated the number of bloggers at 2,000 in 2006. A struggle between conservatives and liberals takes place on the blogs. Furthermore, the ONI (OpenNet Initiative, 2009e) found that half of these bloggers are women. Interestingly, in 2005, the Saudi government tried to ban blogging.com but retreated from that decision in a few days. However, censors continue to block content on the blogging.com Web site instead. Statistics obtained from the ITU ("Internet usage in the Middle East", 2010) estimate the number of Saudi Internet users to be 9,800,000 as of June 2011, 38.1% of the population, while the number of Facebook users in Saudi Arabia was estimated to be 2,575,740 as of August 31, 2010. Table 7 illustrates the growth in the number of Saudi Internet users over the last decade. In Saudi Arabia the number has grown from 0.9% of the population in the year 2000 to 38.1% in 2010. More than half of the population does not use the Internet.

Table 7
Percentage of Internet Users in Saudi Arabia 2000–2010

Year	Users	Population	% of population
2000	200,000	21,624,422	0.9%
2003	1,500,000	21,771,609	6.9%
2005	2,540,000	23,595,634	10.8%
2007	4,700,000	24,069,943	19.5%
2009	7,761,800	28,686,633	27.1%
2010	9,800,000	25,731,776	38.1%

Note. From http://www.internetworldstats.com/me/sa.htm.

Legal Framework. The Saudi government is open about its filtering policies. It allows limited openness as a venting mechanism, especially in the aftermath of September 11. The ISU site explains its policy and continues to explain how and why it is upheld ("Introduction to content filtering", 2006). It clearly states that "KACST is directly responsible for filtering pornographic content," while other sites are blocked upon request from "government security bodies". Remarkably, censors depend on citizens to send requests to block certain content. According to the ONI (2009), the ISU receives roughly 1,200 requests a day. The Initiative for an Open Arab Internet states that "the Internet is policed by both the authorities and the Saudi citizens" („Implacable adversaries: Arab governments and the Internet", 2010).

Since March 2009, Internet cafés owners have been required to install hidden cameras and to provide a record of the names and identities of customers using their connections. The Telecommunications Regulatory authority (TRA) recommends to King Abdelazeez City sites or content to be blocked in order to regulate and to organize Internet services. Furthermore, in January 2008, authorities started implementing 16 articles of a new law that tackles the use of technology and includes various penalties for offenses, such as a determination or intention that the users "advocate or support terrorism" and any attempts of "fraud or invasion of privacy and distributing pornography or other materials that violate public law, religious values and social standards" (Internet Filtering in Oman, 2009). According to the ONI, "accomplices of the guilty parties and even those who are proven to have only intent to engage in unlawful IT acts can receive up to half of maximum punishments" (OpenNet Initiative, 2009e, p. 4).

Cases of political and non-political nature have been subject to the new law in Saudi Arabia. A case of sexual intimidation resulted in a man paying a fine and being imprisoned and lashed when he was found guilty of breaking into a woman's email account, stealing pictures, and using them against her. Furthermore, in July 2009, the Saudi authorities refused to renew the residence permit of an Egyptian who had lived in Saudi Arabia for 44 years because of writing in newspapers and on the Internet articles that were considered critical of the Egyptian government. According to the Arabic Network for Human Rights Information (ANHRI), his writings "only amount to writings about his concerns and opinions about Egypt and do not include any Saudi related matters" (The Arabic Network For Human Rights Information, 2008).

It is common knowledge that the Web sites of Human Rights Watch, Reporters Without Borders, and the Arabic Network for Human Rights Information are blocked inside Saudi Arabia. Saudi Arabia's National Human Rights Society announced that it is trying to have the Web sites of Arab and international human rights organizations unblocked by Saudi authorities.

The Saudi Minster of Culture and Information announced in May 2009 the enactment of new publishing laws and regulations for newspapers and Internet Web sites. The new laws require local Web sites to acquire a special ministerial license, a measure taken to discourage "dangerous" writing in the newspapers and on the Internet. This came as a response to thirteen Saudi journalists' filing a complaint regarding allegations directed at them by a local writer, accusing them of being non-professionals capitalizing on relations with their bosses to advance their careers. In their complaint, they stated that the writer's accusations exploited the absence of censorship of online content in Saudi Arabia (OpenNet Initiative, 2009e).

ONI's (OpenNet Initiative, 2009e) in-country testing revealed that the main three ISPs in Saudi Arabia – STC, National Engineering Services & Marketing (Nesma), and Arabian Internet and Communications Services (Awalnet) – block the same Web sites because they are all subject to the same centrally administered filtering system that uses SmartFilter to identify and block offending sites. Examples include the sites of the Islah movement (www.islah.tv and www.islah.info), the Tajdeed (www.tajdeed.net), www.alumah.com, and www.alhijazonline.com, in addition to the New Arabia forum (www.newarabia.org).

The Internet in Saudi Arabia has been increasingly used for online activism, a fact that has led to the arrest of several online writers and the blocking of their writings. Saudi blogger Ahmad Fouad Al-Farhan was jailed for more than four months, during which his blog was blocked, and it continues to be blocked (Saudi Arabia, 2009). In addition, according to Reporters Without Borders (n.d.), the Voice of Saudi Women Web site (www.saudiwomen.net) was blocked in October 2008 after it published several reports about the status of women in Saudi society.

Sites concerning religious orientations that differ from that of the mainstream of the Saudi government are blocked. Examples include the sites of minority Shia groups (www.yahosein.com), the Bahai faith (www.bahai.com), and the Institute for the Secularization of the Islamic Society (www.secularislam.org), as well as sites that are critical of Islam or that attempt to convert Muslims to other religions.

Filtering is mostly directed at Saudi and regional organizations, such as the Web pages of the Saudi Human Rights Center (www.saudihr.org). Additionally blocked is the human rights Web site www.humum.net, which is based in Cairo, run by the Arab Human Rights Information Network, and publishes information about violations of human rights provided by Arabs working in Saudi Arabia. Contrary to one's expectations, news and media sites such as the daily Israeli newspaper *Haaretz* (www.haaretz.com) are not blocked. On the other hand, some Arabic newspapers and news portal sites such as the Al-Quds Al Arabi (www.alquds.co.uk) and the Elaph (www.elaph.com) news portal have been continuously blocked and unblocked (Saudi Arabia, 2009).

Numerous sites relating to alcohol and drugs, gays and lesbians, sex education and family planning are blocked. A substantial number of Internet tools, including anonymizers and translators, are filtered. In Saudi Arabia, censorship is done explicitly and described as targeting "morally inappropriate and religiously sensitive material" („Implacable adversaries: Arab governments and the Internet", 2010). Generally speaking, Internet filtering reflects the government's attempts to suppress opposition and its desire to continue to quash any attempts that could breed divergence from the main religious view. However, the authorities also filter oppositional political sites and those with any human rights content. Internet cafés and local sites are monitored and must be formally registered as well („Implacable adversaries: Arab governments and the Internet", 2010).

The current sixth king of Saudi Arabia, Abdallah Ibn Abdulaziz al-Saud, also holds the post of prime minister, and has been in power since August 2005. During his reign, the government rule can be characterized as ambivalent, swaying between repression and openness. Political activists and journalists were arrested when the country was holding its first municipal elections. Jilian C. York of Aljazeera News reports that three men were detained on October 18, 2011, allegedly for showing a video about poverty in Riyadh. The three men – Feras Bugnah, Hosam al-Deraiwish and Khaled al-Rasheed – produced a Web program called *We Are Being Cheated*. The program that was launched this past summer of 2011, tackles problems that are unspoken of in Saudi society. Reporters Without Borders currently lists one netizen imprisoned in Saudi Arabia. Furthermore, it lists Saudi Arabia as 157 out of 178 on its latest freedom world index (Reporters Without Borders, n.d.).

United Arab Emirates (UAE)

The United Arab Emirates is a federation of seven independent emirates that came together after achieving independence from Britain in 1971, governed by a Supreme Council of Rulers of seven emirs, each representing an emirate. According to the CIA World Factbook (Central Intelligence Agency, 2011f), its total estimated population in July 2011 was 5,148,664. According to the Initiative for an Arab Open Internet, less than 20% of the total population consisted of nationals in 2006 („Implacable adversaries: Arab governments and the Internet", 2010). Its per-capita GDP is competitive to those of Western countries, but the 2008 economic crisis hit this country hard. The United Arab Emirates is considered a leader in the adoption of ICT in the region. According to the *Khaleej Times* (2010), the UAE is expected to spend $45.8.billion for the years between 2010 and 2013 to equip schools and hospitals with the latest ICT. A Human Rights Watch (2008) report indicated that the governing authorities have practiced all types of pressure on activists to suppress any activities that would involve the monitoring of any human rights abuses. Conflicting reports and practices still exist in relation to journalists and the freedoms they enjoy. On one hand, the Prime Minister issued a decree in 2007 stating that journalists should not be penalized "for reasons related to their work" but the current media law permits the imprisonment of journalists and the suspension of publication of "materials that cause confusion among the public" (OpenNet Initiative, 2009f, p. 1). As in many other Middle Eastern and AGCC countries, when governments monitor press content, journalists react by exercising self-censorship.

In spite of the fact that Dubai has been working to establish itself as a regional and international hub for media by creating a tax-free media zone authority allowing 100% foreign ownership, the ONI's (OpenNet Initiative, 2009f) test results showed that the Internet is filtered and that other media are monitored and occasionally blocked. Internet penetration in the UAE has almost doubled since 2006, showing an increase from 36 percent to 64 in 2008, according to the ITU ("Internet usage in the Middle East", 2010). Statistics obtained from the ITU estimates the number of Internet users at 3,777,900 as of June 2010, 75.9% of the population. Table 8 and Figure 1 illustrate the growth in the number of Internet users over the last decade from 2000 to 2010. The UAE has experienced a clear pattern of continuous growth similar to those of other Gulf Countries.

Table 8
Percentage of Internet Users in United Arab Emirates 2000–2010

Year	Users	Population	% of population
2000	735,000	3,750,054	19.6%
2003	1,110,200	3,750,054	29.6%
2005	1,300,000	3,750,054	34.7%
2009	3,558,000	4,798,491	74.1%
2010	3,777,900	4,975,593	75.9%

Note. From http://www.internetworldstats.com/me/ae.htm.

The 2007 UAE yearbook stated that Etisalat is the dominant telecom provider in the UAE. To encourage competition, the UAE's Telecommunications Regulatory Authority (TRA) licensed DU, an integrated telecommunications company established in 2007, to use capital in the amount of USD 1.1 billion. DU offers voice, data, and entertainment on mobile networks, broadband, TV, and landline services. The broadband Internet market competition between the two ISPs remains limited because they do not share each other's networks, and because Etisalat has been the dominant telecom provider for 30 years and, thus, owns most of the national telephone network, including both the copper wire and the new fiber-optic cables.

Legal Framework. The 1990 Press and Publications Law imposes broad prohibitions and harsh penalties on publications and broadcast media. The UAE's 2007 federal cyber law criminalizes:

Hacking, abusing of holy shrines or religious rituals, opposing the Islamic religion, transcending family principles and values, setting up a Web site for groups promoting programs in breach of public decency and order, and setting up a Web site or publishing information for a terrorist group under fake names with intent to facilitate contacts with their leadership, or to promote their ideologies and finance their activities, or to publish information on how to make explosives or any other substances that can be used in terrorist attacks (OpenNet Initiative, 2009c).

According to the ONI (OpenNet Initiative, 2009f), the TRA continues to promote Arabic content and encourages visitors to Arabic sites on the Internet. The National Media Council (2010) has stated that a new draft law is on the way, one that will provide unprecedented provisions to protect and promote freedom of expression in the UAE. Journalists and other media groups, both local and international, have expressed concerns about the draft.

The telecommunications service, which is regulated by the TRA, was established in 2003 by a federal law to supervise and control the provision of ICT services in the country. The TRA (OpenNet Initiative, 2009f) created the Internet Access Management (IAM) policy, which outlines for the ISPs categories of prohibited online content, including: Internet tools for bypassing blocked content; content for learning criminal skills and illegal drugs; content containing pornography and nudity; gambling sites; sites for hacking and malicious codes; content offensive to religions, phishing Internet sites; Internet content that downloads spyware; Web sites providing unlicensed voice over Internet protocol (VoIP) service; terrorism content; and prohibited top level domains.

In addition, any "reference to the top level domain name of Israel (.il)" (OpenNet Initiative, 2009f, p. 1) is blocked in the UAE.

The UAE's Cyber-Crime Law No. 2 of 2006 was implemented to counter cyber crimes. According to the ONI (2009), Gulf News stated that this law considers any intentional act that abolishes, destroys, or reveals secrets or results in the republishing of personal or official information to be a crime. Individuals may be imprisoned for using the Internet to defame Islamic places of worship and traditions, insult any recognized religion, or promote "sinful acts" (OpenNet Initiative, 2009f, p. 6). Anyone convicted of "transcending family principles and values" or setting up a Web site for groups "calling for, facilitating, and promoting ideas in breach of the general order and public decency" (OpenNet Initiative, 2009f, p. 3) may be jailed.

In August 2007, the creator of a Web site named Majan.net was sentenced to a year in prison and fined by a court in the Emirate of Ras al-khima for allegedly defaming a public official; the site was also shut down. In September, that same individual received another five-month prison sentence and a fine in a second defamation case involving another local official, but was released on bail at the end of September 2007. Two months later, an appeals court overturned his two sentences after the defamation complaints were withdrawn by the officials. He then received a one-year suspended prison sentence after being convicted in a third defamation case.

Conflicting practices in reaction to the flow of information have been employed. In April 2009, when reports indicated that the head of the Doha Media Center claimed that Dubai police had developed a list of 500 objectionable terms for censorship purposes, Dubai's police chief denied this, saying that the Dubai Police had asked the UAE's Telecommunications Regulatory Authority to censor Web sites containing any of the 500 objectionable terms. The police chief added that the government does censor Web sites critical of the UAE and that the 500 search terms intended to "shield UAE Internet users against pornographic content were proposed by the telecommunications regulators themselves, not the Dubai Police" (Internet Filtering in the United Arab Emirates, 2005). Voice over Internet Protocol continues to be banned in the UAE. Both Etisalat and Du conform to the TRA policies and block Web sites that offer free voice over Internet protocol (VoIP) services, yet many individuals – including Internet café owners – can get around this ban and use the Internet to make international calls. However, cafés believed to be in violation of the law have been investigated in preparation for public prosecution (Zain & Ismail, 2008). An online surveillance team set up by the Dubai police, known as the e-police, investigated 222 cases in 2008 that included 87 cases of fraud, 38 cases of hacking, and 92 cases of defamation and extortion. The e-police also announced in April 2009 that it tracks arrested women who use the Internet to promote their services. Individuals who sell inexpensive, illegal VoIP services have been traced by the e-police as well.

According to the ONI testing conducted in 2008 and 2009, the UAE's Internet filtering has been increasing since 2006 and 2007. Filtering of any alternative political or religious views was found to be practiced by the ISPs, DU as well as Etisalat. The ONI (OpenNet Initiative, 2009f) testing also revealed that UAEprison.com, which hosts testimonials of former prisoners and includes critiques of the government's human rights practices, is blocked, as is the U.S.-based *Arab Times* (www.arabtimes.com). An online campaign Web site was launched for the release of U.S. citizen Zack Shahin (www.savezackshahin.com) from a UAE prison was blocked. The site encourages Americans to send letters to members of Congress to champion the release of Shahin, who was the chief executive officer of a Dubai property development company, charged in April 2009, along with a former UAE minister, with seizing public money and harming state interests.

The UAE censors seem to be sensitive to content critical of the local economic situation or society. The famous Arabic UAE blog Mujarad Ensan (Arabic for "just a human"), which mocks the economic situation of the Emirates, has been blocked and unblocked several times, according to the ONI (OpenNet Initiative, 2009f). The blog Secret Dubai Diary (www.secretdubai.blogspot.com) was also found to be blocked because of its critical review of social life in the country. In addition, sites that present any ideas differing from the mainstream perspectives on Islam (www.thekoran.com, www.islamreview.com, and www.secularislam.org) are blocked, as are sites that promote minority faiths.

ONI (OpenNet Initiative, 2009f) testing continues to show inconsistent filtering of previously accessible Web sites, such as the UAE-based atheist blogs Ben Kerishan, (www.benkerishan.blogspot.com), the Land of Sand (thelandofsands.com), and Ben Short (www.benshort.blogspot.com). Wikipedia pages containing information about the film *Fitna*, considered offensive to Islam and produced by Geer Wilders, a Dutch politician, are blocked. In addition, the Wikipedia page about the Prophet Muhammad is blocked, possibly because it contains drawings of the Prophet, which are offensive to most Muslims. In March 2009, the Israeli Web site and its YouTube pages containing offensive video clips to Muslims, called Ahmed and Salim (ahmedandsalim.com), were blocked as well.

In addition, ONI (OpenNet Initiative, 2009f) testing found that several Web sites containing information about Nazism, Holocaust deniers, and historical revisionists were blocked. The Web site Vdara.com, which is described as anti-Semitic is blocked too. Generally, all Web sites containing the Israeli domain name ".il" are blocked.

The UAE unblocked several social networking and multimedia sharing sites, including YouTube, Flickr, Metacafé, and Myspace in October 2006. However, access to parts of these sites that contain objectionable material remains blocked. Flickr, the photo-sharing site, was later blocked entirely. Social networking sites, video and photo sharing sites, bookmarking services, and blogging services continue to be blocked, though inconsistently. Livejournal was blocked in the UAE in June 2008. It was categorized as a dating site in the database of the commercial filtering software Secure Computing. The UAE TRA uses SmartFilter, of Secure Computing, to perform monitoring and blocking of content categories including dating, porn, sex, and gambling.

Filtered sites such as Circumcision.org and Sexualhealth.com were found to be unblocked by the ONI (OpenNet Initiative, 2009f), though other similar sites are still blocked. Examples of Web sites showing provocative attire (Lingerie.com), sites that promote alcohol and drug use or online gambling or dating, and many Arabic-language dating sites or sites that target singles living in the Middle East (www.arablounge.com, www.gaymiddleeast.com/country/uaemirates.htm); these have all been blacklisted. Nudity is censored (an example is the Arabic magazine found at http://www.jasadmag.com). Internet tools and applications that facilitate hacking (Thesecretlist.com), (Anonymizer.com) sites, and translation sites such as the Google Web site translator, not the text translator, are blocked. Several VoIP sites (Skype.com, Pc2call.com) are also blocked.

Filtering and blocking of Internet content in the UAE are considered pervasive by the ONI (OpenNet Initiative, 2009f). These practices span a variety of topics, though most filtered sites are considered to feature obscene content. The filtering practices spread to the Dubai free zones after its residents enjoyed free Internet access. The authorities employ SmartFilter software to block content including "nudity, sex, dating, gambling, cults/occult, religious conversion, and drugs. Sites pertaining to anonymizing tools, hacking, translation tools (as these have been used as proxies), and VoIP applications" all are blocked (OpenNet Initiative, 2009f).

Five pro-democracy activists were arrested in April 2011 alongside the blogger Ahmed Mansoor, and they remained in detention until a verdict was issued. They refused to appear at trial and remained in custody until November 27, 2011. Reporters Without Borders (n.d.) currently lists three netizens imprisoned in the UAE, and the UAE is ranked 86 out of 178 on the latest freedom world index.

Social media growth and developments in 2001

The revolts of 2011 in the Arab world generally and in the Arab Gulf countries in particular are still unfolding. The growth of social media tools and of Web 2.0 interactive features is creating new paradigms of power between established governments and the newly empowered youthful generation. As 2011 comes to a close, it is very apparent that the growth of the Internet and social media in the region created a clear shift in usage trends. It is also clear that this has enabled and enhanced people's abilities to mobilize, to empower themselves, and to shape others' opinions, all with the aim of engendering change. Young activists and social media advocates seem to be leaders in the use of these new technological skills. Their continued, multi-faceted and creative use of social media tools is continuously changing the content exchanged online to become more political.

Table 9 below illustrates the increase in the number of Facebook users in the Arab region generally. In countries where protests have taken place, the increase has been more significant in number and impact. Compared to 2010, during the first three months of 2011, Facebook use expanded in the Arab region rapidly by 30%. In 2010, Facebook use had grown only by 18%. Murtda and Salem (2011) in the second Arab Social Media Report assert, "countries where major civil movements have occurred have shown exponential growth during and after those civil movements" (p. 23).

Table 9
Facebook Users and Officials Population Figures for the AGCC Countries

Country	Population	Facebook users	Facebook penetration
Oman	3,103,580	277,840	9.0%
Saudi Arabia	27,136,979	4,092,600	15.1%
Kuwait	3,484,881	795,100	22.8%
Bahrain	1,234,596	302,940	24.5%
Qatar	1,699,435	481,280	28.3%
UAE	8,260,000	2,406,120	29.1%

Note. From Arab ICT Use Report 2010, Madar Research, Dubai, UAE.

All AGCC countries prefer to use English on Facebook, primarily due to the size of its English-speaking foreign expatriate population, and only Saudi Arabia is the exception. French is not used extensively on Facebook in the AGCC. Table 10 illustrates the percentages of English language use on Facebook in the six different Arab Gulf countries. UAE users employ English most commonly, while Saudi Arabia does so least commonly: UAE (85%), Qatar (79%), Kuwait (70%), Bahrain (68%) and Oman (62%), while Saudi Arabia (60%) mainly uses Facebook's Arabic interface (Murtda & Salem, 2011).

Table 10
Facebook Preferred Language of Interface in the AGCC

Country	Arabic % of FB Users	English % of FB Users	French % of FB Users
Oman	36.4	62.0	0.39
Saudi Arabia	59.6	38.0	0.35
Kuwait	27.8	69.7	0.92
Bahrain	30.8	67.5	0.29
Qatar	16.7	79.4	1.09
UAE	9.9	85.4	1.24

Note. From Murtada & Salem (2011, p. 14)

Twitter has become a very powerful, influential, and effective microblogging tool used for a variety of purposes, including marketing, celebrity endorsement, and news dissemination and aggregation among others. Table 11 below clearly illustrates this growth. According to the ASMRA, 30 to 40 million of the 200 Twitter million users around the globe are actually *active*, meaning that a minority of tweeters generate most of the information found on Twitter, while most people use Twitter as a newsfeed rather than as a microblog (Murtda & Salem, 2011).

Table 11
Twitter Users and Officials Population Figures for the AGCC Countries

Country	Population	Twitter users	Twitter penetration
Oman	3,103,580	6,680	0.22%
Saudi Arabia	27,136,979	115,000	0.42%
Kuwait	3,484,881	113,000	3.24%
Bahrain	1,234,596	61,900	5.01%
Qatar	1,699,435	133,000	7.83%
UAE	8,260,000	201,000	2.43%

Note. From Murtada & Salem (2011, p. 17)

Twitter users across the region are all active. During the first quarter of 2011, over 60% of tweets composed in the Arab region were generated by users in Kuwait, Qatar, UAE, Saudi Arabia, and Egypt. The AGCC countries – specifically, Qatar, Bahrain, the UAE, and Kuwait – and Egypt constitute the top five countries in number of Twitter users and volume of tweets. It should be noted that usually, there is a correlation between volume of tweets and the number of Twitter users.

Qatar and Bahrain have the highest two rates of Twitter user penetration, and Qatar is the second largest among the Arab Gulf states in spite of its small population. Early this year, Qatar generated the second largest number of tweets, with the majority of tweets coming from its capital of Doha. This could be explained by Qatar's winning of the 2022 World Cup bid last year, which generated Twitter activity and attracted new users as well. The Qatari government has adopted Twitter and other social media tools as part of its social media strategic plan.

UAE and Kuwait are countries with above-average Twitter user penetration. Both nations have high Internet, Facebook, and mobile penetration rates. Kuwait generated the highest number of tweets during the first quarter of 2011, even though it has half the Twitter population of the UAE. According to the AMSR, "these indicated a higher than average number (compared to the rest of the region) of very active users, which could include spam or 'bots,' as well as possibly indicating a thriving social media marketing industry that utilizes Twitter campaigns" (Murtada & Salem, 2011, p. 23). Generally, levels of both Internet and Facebook penetration are good indicators of Twitter usage, alongside mobile subscriptions rates. The AGCC countries' high Twitter rates could be due to their favoring use of Facebook's English interface, while Twitter's penetration is low in Arab countries where people primarily use Facebook's Arabic interface, such as Saudi Arabia. It is noteworthy that Twitter, a micro-blogging Web site, does not offer an Arabic interface.

Discussion and conclusion

As this paper has attempted to ascertain, governments' reactions in the AGCC to the new phenomenon of information transfer through new means, which did not exist before, have not been unified. The older paradigm that awarded them full control over information flow is slipping from their grips. Their long and continued resistance to relinquishing their power and their lack of understanding of the new paradigms of power emerging in their societies have caused them to react inconsistently. Blocking access to social media Web sites, the Internet, or mobile networks altogether has been one way of reacting. Few governments have been more positively responsive, adapting and embracing changes. The more responsive governments have attempted to remain neutral, realizing that social media growth and usage, mostly among the young population, will occur whether they like it or not. Consequently they have resorted to placing new guidelines and policies.

Generalizations about the role of social media in the Arab civil movements of 2011 and those in the making will need to be formulated based on what will happen in the near future. As explored in this paper, the continuously increasing penetration rates for Internet and social media tools among a considerably young population will continue to affect how the new generations handle political, societal, and economic developments in their region. Members of the new generation are reimagining a future that their parent's generation painted differently and are seeking active participation in all spheres of life.

As the Internet expands across the world, so do the tools and technologies needed to control its content, limit that content, and prevent it from being disseminated. Consequently, the market for filtering tools and services has grown; the Arab Gulf states are no exception. Noman and York (2011) state that filtering technologies produced by Western countries, such as the United States and Canada, are being repurposed and used by all six national governments of the Arab Gulf countries for state-sanctioned censorship. It is worth noting that those companies have not articulated a position or policy about the control or flow of information or censorship. They are simply in the business of making money. Interestingly enough, these Western companies maintain lists of blocked sites as well. Needless to say, no public discussion of the use of these Western tools for blocking has been documented, a fact that makes producing companies enablers and culprits in the control policies of these governments (Noman & York, 2011).

National ISPs all over the Arab Gulf countries use these Western-built automated filtering technology to block the flow of information according to their terms. They use the technology and add their own selected URLs to the blacklists provided by companies. Generally, they block Web sites with information critical of Islam, or with secular and atheist material, sexual content, GLBT information, dating services, and proxy and anonymizing tools.

The ONI country filtering tests continue to register the blocking of information in all Arab Gulf countries. As expected, in the aftermath of the Tunisian revolution followed by the Arab Spring sweeping the area, "these states have also been found to block political content and oppositional websites" (Noman & York, 2011, p. 7). The dilemma faced by these modern development-seeking regimes has been pronounced and aggravated by the revolutions sweeping the Arab world. Economic development for them has been intertwined with control over the ICT market. Noman and York (2011, p. 16) express this aptly as follows: The question arises as to whether such development must have a necessary and liberalizing impact upon the political realm; whether there are inherent characteristics of such technologies which lead to an expansion or liberalization of the *public sphere* and demand the reformulation of political structures to accommodate them.

The technological revolution is changing modes of thinking and behavior, and governments that do not acknowledge and address such changes will be swept away by the waves of resentful citizens empowered by the various tools that the Internet offers. Furthermore, the dilemma that faces the Gulf Countries is that technology is

a double sword. “For them the difficulty lies in how to maximize the potential economic developmental benefits while minimizing the potential political developmental impact” (Murphy, 2006, p. 1063).

A few Arab governments are striving to catch up with this technological revolution and to become associated with it, such as the UAE and Kuwait. However, these governments aspire to increase the number of available Web sites or to expand their content. They do not realize that the technological revolution is measured by the change induced in society at cultural, political, social, and economic levels. Nevertheless, this objective was achieved successfully by Arab Internet activists (“One social network with a rebellious message”, 2010).

The situation is exacerbated by the fact that the generational difference in the making has been unnoticed by the ruling governments. The new generation is educated, differently acculturated, and technologically equipped and enabled. A rift is widening between generations, but governments have ignored this trend.

As for members of the new generation, their “economic initiative is relocated into their hands: they become more tuned in to the global economy, and less willing to accept state-imposed restrictions on their abilities to profit from that engagement than their parents” (Murphy, 2006: 1065). ICT’s expansion in the Arab Gulf area expands the available political space in this diverse part of the world. The Arab Gulf’s various profiles show this diversity clearly through the common practices of control and lack of freedoms. The profiles also highlight the conflicting dilemmas of openness and control, of projecting modern images to the world while maintaining a watchful eye on the local scene.

Large international telecommunication companies operate in the Gulf area generally. UAE Etisalat and Kuwait’s Zain are known to be aggressive buyers of new licenses and other existing operators in Africa, the Middle East, and Asia. Qtel of Qatar, STC of Saudi Arabia, and Batelco of Bahrain have also started emulating Zain and Etisalat’s efforts to expand by marketing data and broadband services together and by capitalizing on what customers like and their ability to pay.

The Web 2.0 has added to the capabilities and interactivity level of people using it. It has offered a space to exercise one’s freedoms and to voice grievances in a magnitude no other form of communication permitted before. Interestingly, Saudi Arabia and Kuwait have the largest number of bloggers in the Gulf. Activists are voicing their aspirations and becoming stronger and bolder, and in some cases, the rift between them and their governments, their oppressors, is growing.

Facebook, the social network, is very popular among Arab youth, more so after the introduction of the site’s Arabic features. It is used for various purposes – entertainment, politics, and religion – and it provides a virtual environment for freedoms. Its success in the Arab revolts of the year 2011 has affected the Arab activists as never before. It has empowered them and propelled their mission forward. Table 12 and Table 13 illustrate Facebook’s penetration percentages and growth in the six Arab Gulf Countries.

Table 12
AGCC Facebook Use and Population Statistics

Country	Total Facebook users	Postion on world list	Penetration of Population	Penetration of Online Population
Oman	328,320	103	11.1%	26.6%
Saudi Arabia	4,536,320	30	17.6%	46.3%
Kuwait	843,640	83	30.3%	76.7%
Bahrain	308,860	107	41.2%	46.8%
Qatar	314,880	105	37.4%	72.2%
UAE	2,622,200	51	52.7%	69.4%
total	8,949,220			

Note. From http://www.socialbakers.com/facebook-statistics

The Initiative for an Open Arab Internet’s study entitled One Social Network (“One social network with a rebellious message”, 2010) states that the UAE has the highest number of mobile phone lines, with 7.5 million mobile phone lines. It also considers Saudi Arabia to be among the countries most “intensely monitoring Internet” and one that hosts the majority of extremist sites.

As for Twitter’s use, the same study concludes that “despite the successful use of the Web site by some Arab activist” other tools as blogging and Facebook seem to be more effective (“One social network with a rebellious message”, 2010). This is due to the fact that approximately 60% of Twitter users in the Middle East and North Africa are bloggers. Furthermore, 90% of these Twitter users are also on Facebook. Increasing numbers of

journalists are now joining Twitter ("One social network with a rebellious message", 2010). The study added, "The tremendous capabilities of this Web site enable it to play a major role, as big as the role played by blogs and Facebook, in supporting democracy in the Arab world" ("One social network with a rebellious message", 2010, chapter 2).

Table 13
Internet and Facebook Growth

Country	Population 2011	Users Dec 2000	Internet use June 2010	Penetration of population	Usage region %	Facebook subscribers	Facebook penetration
Oman	3,027,959	90,000	1,465,000	48.4%	2.0%	285,080	9.4%
Saudi Arabia	26,131,703	200,000	11,400,000	43.6%	15.7%	4,034,740	15.4%
Kuwait	2,595,628	150,000	1,100,000	42.4%	1.5%	822,640	31.7%
Bahrain	1,214,705	40,000	649,300	53.5%	0.9%	287,020	23.6%
Qatar	848,016	30,000	563,800	66.5%	0.8%	245,580	29.0%
UAE	5,148,664	735,000	3,555,100	69.0%	4.9%	2,340,880	45.5%
total	38,966,675	1,245,000	18,733,200	48.1%	100.0%	8,015,940	20.6%

Note. Statistics were updated as of June 30, 2011. Data from http://www.internetworldstats.com/stats5.htm.

Disparity in the Middle East region generally and the Arab Gulf in particular is reflected in the penetration rates of the Internet, Facebook, and mobile technology. According to Research and Market (2010), the six countries of the Gulf Cooperation Council (GCC) all have penetration rates above 100%, with the UAE, Bahrain, and Qatar having saturation levels of 200%. Competition and multi-SIM ownership make this possible, with subscribers aiming to maximize the benefits they gain from special offers and deals that the large expatriate populations residing in all Arab Gulf countries use.

Governments in the AGCC generally have invested in media and IT, but they have also heavily invested in censorship technologies. Objectionable content and its blocking seem to be an area of investment and even obsession. Western companies build the ICT infrastructure necessary for development in the region and also provide the authorities with the means to censor and filter Internet technologies and data. The censors' historical profile that has been studied in literature generally, called the information controller too, and the one in charge of regulating the flow of information lives the dilemma of appearing global and modern, yet staying local and authoritarian. This is why their policies seem to be inconsistent or contradictory, and they are commonly based on the pretexts of security, morality, and religion.

According to the Arab Advisors Group (2010a), as of late 2009, the region's top three countries in broadband adoption in terms of population percentage are the United Arab Emirates at 14 percent, followed by Bahrain at 12 percent and Qatar at eight percent. Table 14 shows the Global Information Technology Report's 2010-2011 list of Networked Readiness Indices (NRI) for the AGCC, in alphabetical order, as follows: Bahrain with a score of 4.64, ranking 30th in the world; Kuwait with a score of 3.74, ranking 75th; Oman with a score of 4.25, ranking 41st; Qatar with a score of 4.79, ranking 25th; Saudi Arabia with a score of 4.44, ranking 33rd; and the UAE with a score of 4.80, ranking 24th in the world ("Global information technology", 2011).

Further examination of data in Table 14 and the comparison of the NRI between the six countries show the rankings are surprisingly different. While UAE and Qatar rank as 24th and 25th, respectively, Bahrain ranks as 29th. Kuwait's ranking of 48th, the lowest among the Arab Gulf states, is surprising, as its wealth of resources and openness make this an absurd situation. Saudi Arabia ranks as 32nd, and Oman, 37th. It is worth mentioning that these different rankings are for the AGCC countries that are all identified by high levels of income.

Table 14
The Networked Readiness Index 2010–2011 and 2009–2010 Comparison

Country	Score/2010	Rank/2009-10	Score/2011	Rank/2010-11	Rank-Same Income Group
Oman	3.91	50	4.25	41	37
Saudi Arabia	4.30	38	4.44	33	32
Kuwait	3.62	76	3.74	75	48
Bahrain	4.58	29	4.64	30	29
Qatar	4.53	30	4.79	25	25
UAE	4.85	30	4.80	24	24

Note. From The Global Information Technology Report 2010–2011 (World Economic Forum, 2011).

As the various profiles show, the countries of the AGCC rely on their old press laws, which are generally restrictive, to govern the Internet instead of developing new, more relevant laws and regulations. They also develop innovative multi-layered systems of control in the absence of relevant laws and regulations. The Kingdom of Saudi Arabia and the United Arab Emirates seem to be exceptions, as they both have developed Internet laws and regulations (OpenNet Initiative, 2009c).

To censor political content, various methods are used, including technical filtering, laws and regulations, surveillance and monitoring tools and methods, physical restrictions, and extra-legal harassment and arrests. Religiously, morally, and politically offensive content exists. Governments of the Arab Gulf countries are clear about admitting social filtering, but they are more tacit about political filtering practices and try to do so under the guise of inconsistent error messages (OpenNet Initiative, 2009c).

In addition, ISPs continue to block politically neutral online tools such as online translation and privacy applications because of the governments' concern that users could employ these tools to bypass the filtering software and mechanisms. Some social networking and photo services sites are blocked for the same reasons. As online campaigns to protest government censorship and to defend online writers and bloggers exist, so do campaigns that promote social censorship. The Ehjeb site is an example of a site that reports to censors any questionable URLs.

Reporters Without Borders state that both Bahrain and Saudi Arabia use mainly technical means – including satellite jamming and Web site blocking – to obstruct media freedom. According to Reporters Without Borders (2011), *Lualua TV*, which was repeatedly denied permission to operate and was launched in London by 15 Bahraini opposition members on July 17, 2011, continues to be jammed even though it changes its frequency regularly. Similarly, in Saudi Arabia, the authorities have blocked access to the Web site for newspaper *Al-Akhbar*, after its coverage of the events in Bahrain and of the Saudi military intervention.

Reporters Without Borders stated in July 2011 that Amnesty International's Web site was inaccessible inside Saudi Arabia in response to the organization's posting of comments critical of a newly revived Saudi anti-terrorism bill, which was meant to reduce the impact of the Arab uprisings in other Arab countries on Saudi Arabia. The bill is worded in a general and vague style that allows for broad interpretation and enables the authorities to prosecute anyone suspected of criticizing the king or the crown prince. Regarded by Reporters Without Borders as an "Enemy of the Internet," Saudi Arabia currently blocks more than 1,200 Web sites.

Three Web TV journalists – Firas Baqna**,** Khalid Al-Rasheed, and Hussam Al-Darwish – were arrested for two weeks without being charged, solely to intimidate them until they started practicing self-censorship (Reporters Without Borders, 2011). Saudi Arabia continues to be on the Reporters Without Borders' list of so-called *Internet enemies*. Bahrain and the United Arab Emirates are on a less severe list, marked as *under surveillance*.

In the last two years, according to Reporters Without Borders (n.d.), Bahraini authorities have started to establish a targeted filtering system. They have also begun arresting netizens under the pretext of fighting terrorism and maintaining national stability. Since early 2011, democratic demands and protest movements have been sweeping the Arab world. The authorities' strategy has fluctuated; on one hand, they intensified censorship of the political opposition, yet gave some concessions and released prisoners.

The United Arab Emirates has attempted to position itself as a technological leader reflecting an image of modernity. Dubai Media City, Dubai Internet City, and its free economic zones with media companies have contributed to this image. In 2010, however, the Internet relayed information about a broad range of sensitive topics, such as corruption and criticism of the government, causing online repression and censorship to intensify. However, the attempts to access BlackBerry data contrast starkly with the image of modernity that the country is trying to cultivate.

The authorities decided in March 2009 to display the UAE's domain name in Arabic in an attempt to expand and promote the use of the Arabic language on the Internet. A plan to build an Internet infrastructure that would become available in government offices and schools, costing several billion dollars, has been proposed. As expected, 75% of the UAE's population (75%) can access the Internet.

A very strict, up-to-date and targeted filtering system tracks pornographic content, as well as Web sites discussing dissenting political opinions, any non-orthodox Islamic views, criticisms of the royal family, and religious or human rights. All such Web sites are blocked. In addition, Facebook and Twitter are regularly blocked or banned.

Another highly sensitive subject is the economy; for example, Mujarad Ensan's blog was blocked when the author discussed the current economic situation and its repercussions. Sites that provide access to content considered "obscene," or those that lead, discuss or point to censorship circumvention tools, are also blocked. The UAEhewar Web site is the only forum that provides an opportunity for Emiratis to discuss subjects considered taboo. These surveillance practices are extended to mobile phones as well.

The latest UAE filtering victim is BlackBerry smartphones. The authorities' first attempt to install spyware on these Smartphones in July 2009 failed, so they tried again in 2010. Internet access through the Blackberry has been filtered since December 2009. Today, over 500,000 people in the UAE use BlackBerrys. Restricting these BlackBerrys tarnishes the modern image that the UAE works hard at maintaining and projecting to the outside world. Yet the fear of these smartphones' potential in mobilizing dissatisfied citizens and masses has grown in the area, particularly in the aftermath of the Arab Spring movement (Reporters Without Borders, n.d.).

Conflicting information regarding this matter is given due to the unwillingness of both parties, the UAE authorities and the manufacturer Research In Motion (RIM), to share their data clearly. The authorities' pressure is exerted on users and RIM equally. RIM was given an ultimatum to comply with the government's regulations by October 11, 2010, or its services would be cut off for supposedly offending Islam and threatening the nation's security. Information from Reporters Without Borders, the Emirati authorities, and RIM confirms that an agreement to access smartphones' encrypted data has been reached by the parties. The UAE authorities declared that BlackBerrys are in compliance with the law. No one knows about the details of this agreement, or what concessions RIM could have made to the authorities. Reporters Without Borders' report section on countries under surveillance state that just as RIM made concessions to the authorities in UAE, the U.S. company Apple agreed to sell the iPhone 4 to the Emirates without its flagship FaceTime application, which allows users to enjoy live video chats. Reporters Without Borders' report section on Internet Enemies (2011) state that, in Saudi Arabia, where BlackBerry phones are popular, pressures from authorities threatening to block the BlackBerrys' instant messaging service led RIM, the BlackBerry manufacturing company, to agree in August 2010 to install a server in Saudi Arabia. This was done to enable Saudi authorities to gain court-ordered access to certain messages, a fact that worries users of these smartphones.

Reporters Without Borders' section on Internet countries under surveillance state that Badr Ali Saiwad Al Dhohori was arrested in July 2010 for allegedly attempting to organize a protest against the increase in gasoline prices. Although he is 18 years old and was acquitted on August 28, 2011, he lost his job.

The start of the Internet across the Middle East has been slow, but it is growing rapidly, a phenomenon whose effects we will continue to witness in the future. The Total Country Connectivity Measure results for 2009 revealed the continued leadership of GCC countries. The UAE remained in the top spot (with a score of 352%), followed by Saudi Arabia (286%), Qatar (254%), Bahrain (250%), Libya (246%), Kuwait (201%), Oman (189%), Algeria (161%), Lebanon (155%), Morocco (149%), Jordan (148%), Tunisia (145%), Syria (142%), Egypt (140%), Palestine (109%), Iraq (100%), Yemen (66%), and, in last place, Sudan, with a TCCM value of 51.2% (Arab Advisors Group, 2010a).

According to the Arab Advisors Group's 2010 annual report analyzing ADSL rates in Arab countries, "when rates are analyzed in relation to GDP per capita in each country, the GCC countries and Morocco lead the pack" (Arab Advisors Group, 2010a). The Arab Advisory Group's 2010 annual report findings are significant for understanding the situation of ICT in the AGCC countries. The report showed the AGCC to be leading, with the United Arab Emirates ranking as the most-connected country in the Arab world, the Kingdom of Saudi Arabia second, and Qatar third.

Indeed, from Morocco to Bahrain, the Arab world has witnessed the rise of an independent vibrant social media and steadily increasing citizen engagement on the Internet that is expected to attract 100 million Arab users by 2015. What and how governments will react to this growing involvement will be seen (Arab Advisors Group, 2010b).

ICT at the highest level in the Arab Countries of the GCC must be promoted in order to facilitate any positive breakthrough in education, health care, and other services. As data show, increasing ICT, ISPs, and competitive Internet prices will affect people's abilities to connect online and will enhance their global awareness. Finally, connectivity and accessibility will bring more rules and policy changes, both for provision and prevention of information. This will continue to be the struggle between the authorities and the activists. Technology is enabling activists and citizens; it is empowering them with a force, right, and might that will shape the future of this region of the world. The future of the Internet carries interesting changes for the lands and people of the AGCC and the rest of the world.

References

Alphabetical list of countries. (n.d.). Retrieved October 2, 2011, from http://www.internetworldstats.com/list2.htm

Arab Advisors Group (2010a August 26). *Arab advisors' total country connectivity measure (TCCM) 2009 for the Arab World: The UAE maintains the top spot, while Saudi Arabia replaces Bahrain at second place*. Retrieved from http://www.arabadvisors.com/reports/item/12429

Arab Advisors Group (2010b, October 18). *In the Arab world: ADSL is cheapest in Morocco and most expensive in Iraq.* Retrieved from http://www.arabadvisors.com/pressers/presser-181010.htm

Central Intelligence Agency. (2011a). Bahrain. In *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/ba.html

Central Intelligence Agency. (2011b). Kuwait. In *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/ku.html

Central Intelligence Agency. (2011c). Oman. In *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/mu.html

Central Intelligence Agency. (2011d). Qatar. In *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/qa.html

Central Intelligence Agency. (2011e). Saudi Arabia. In *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/sa.html

Central Intelligence Agency. (2011f). United Arab Emirates. In *The world factbook*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/ae.html

Cooperation Council for the Arab States of the Gulf (1981). *The Charter*. Retrieved April 22, 2011, from http://www.gcc-sg.org/eng/indexfc7a.html?action=Sec-Show&ID=1

Deibert, R., Palfrey, J., Rohozinski, R., & Zittrain, J. (2008). County summaries: Oman. In R. Deibert, J. Palfrey, R. Rohozinski, & J. Zittrain (Eds.), *Access denied: The practice and policy of global Internet filtering* (pp. 350–359). Cambridge, MA: MIT Press.

Digital Opportunity Index. (2010). Retrieved December 25, 2011, from http://www.itu.int/ITU-D/ict/doi/index.html

Global information technology. (2011). Retrieved December 25, 2011, from http://www.weforum.org/issues/global-information-technology

Implacable adversaries: Arab governments and the Internet. (2010). Retrieved December 25, 2011, from http://old.openarab.net/en/node/346

Internet usage in the Middle East (2010). Retrieved December 25, 2011, from http://www.internetworldstats.com/stats5.htm

Introduction to content filtering. (2006). Retrieved December 25, 2011, from http://www.isu.net.sa/saudi-internet/contenet-filtring/filtring.htm

List of the GCC countries and nations. (n.d.). Retrieved April 20, 2010, from http://www.dubaifaqs.com/list-of-gcc-countries.php

Market information. (n.d.). Retrieved December 26, 2011, from http://www.tra.org.bh/en/marketstatistics.asp

Murphy, E. C. (2006). Agency and space: the political impact of information technologies in the Gulf Arab states. *Third World Quarterly*, *27*, 1059–1083.

Murtada, R., & Salem, F. (2011). Civil movements: The impact of facebook and twitter. *Arab Social Media Report*, *1*(2). Retrieved December 25, 2011, from http://www.dsg.ae/publications/publicationdetail.aspx?udt_826_param_detail=3179

Noman, H., & York, J. C. (2011). West censoring east: The use of western technologies by Middle East censors, 2010-2011. Retrieved October 14, 2011, from http://opennet.net/sites/opennet.net/files/ONI_WestCensoringEast.pdf

One social network with a rebellious message (2009). Retrieved December 25, 2011, from http://old.openarab.net/en/node/1640

OpenNet Initiative (2009a). *Internet filtering in Bahrain.* Retrieved December 26, 2011, from http://opennet.net/sites/opennet.net/files/ONI_Bahrain_2009.pdf

OpenNet Initiative (2009b). *Internet filtering in Kuwait*. Retrieved December 26, 2011, from http://opennet.net/sites/opennet.net/files/ONI_Kuwait_2009.pdf

OpenNet Initiative (2009c). *Internet filtering in Middle East and North Africa.* Retrieved from http://opennet.net/sites/opennet.net/files/ONI_MENA_2009.pdf

OpenNet Initiative (2009d). *Internet filtering in Oman.* Retrieved December 26, 2010, from http://opennet.net/research/profiles/oman

OpenNet Initiative (2009e). *Internet filtering in Saudi Arabia.* Retrieved December 26, 2011, from http://opennet.net/sites/opennet.net/files/ONI_SaudiArabia_2009.pdf

OpenNet Initiative (2009f). *Internet filtering in United Arab Emirates.* Retrieved December 25, 2011, from http://opennet.net/sites/opennet.net/files/ONI_UAE_2009.pdf

Reporters Without Borders (n.d.). *Countries under surveillance: Bahrain*. Retrieved December 13, 2011, from http://en.rsf.org/surveillance-bahrain,39748.html

Reporters Without Borders. (2011, October 31). *Three online television journalists freed.* Retrieved from http://en.rsf.org/arabie-saoudite-three-online-television-31-10-2011,41254.html

The Arabic Network For Human Rights Information. (2008). *The Arabic Network calls on the Saudi authorities to annul the decision to expel Egyptian resident Abdullah Alkhayat*. Retrieved December 25, 2011, from http://www.anhri.net/en/reports/2008/pr0726.shtml

The history of the Internet in Kuwait. (2006). Retrieved December 25, 2011, from http://esetch.blogspot.com/2006/06/history-of-internet-in-kuwait.html

United Nations Developmnet Fund (2010). Human Development Report 2010 - 20th Anniversary Edition. *Human Development Reports*. Retrieved December 25, 2010, from http://hdr.undp.org/en/reports/global/hdr2010/chapters/

Wheeler, D. L. (2006). *The Internet in the Middle East: Global expectations and local imaginations in Kuwait*. New York, NY: State University of New York Press.