# Chapter 4
# Government 2.0: A Change Towards Citizen Participation in Arab Countries

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**Abstract** The rapid evolution of Information and Communication Technology (ICT) practices and applications have forced many governments to adopt new mechanisms to satisfy their citizens' emerging need for participation. This participation can be achieved when government develops a communication channel that enables it to listen to citizens' needs, opinions, proposals, and concerns making citizens closer to decision-makers, which contributes in creating a democratic environment. Narrowing the gap between citizens and governments would assist policy makers in overcoming some of the economic, social, and political problems. This paper discusses the role of one of the most influential ICT applications, Web 2.0 technology, in enhancing e-participation through providing a convenient communication channel between governments and citizens. In particular, it investigates e-participation of Arab countries -considered in their early path towards democracy, and whether their use of this technology would ensure a gradual transformation to democratic communities. The research starts by demonstrating Web 2.0 tools, their different stages of implementation, and their application in e-government stages. In addition, there will be an analysis as to the extent of use of Web 2.0 by Arab countries to assess their adoption of Web 2.0 for participation, better communication, and transparency with citizens. A number of issues are raised: Are Arab governments using Web 2.0 effectively? Do they recognize the value of Web 2.0 in citizens' engagement in public policy making? Are they exploiting the specific features

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of each Web 2.0 tool? Does Web 2.0 use differ among traditional Arab regimes and Arab Spring countries? Preliminary findings will be discussed leading to suggestions for further research venues.

## 4.1 Introduction

The world is witnessing a great evolution in ICT with a fast pace aiming to better serving mankind around the globe. Most governments worldwide took advantage of this development through Electronic Government (e-government). Governments expected that ICT could provide a communication channel that fosters their relationships with citizens (Fang 2002; Panagiotopoulos 2011). E-government has transformed from e-government 1.0—offering information and services to the citizens through a one-stop shop (Ho 2002) in a one directional non-interactive manner (Tapscott and Williams 2006)—to e-government 2.0 that facilitates citizens' participation and involvement in public policy making through utilizing Web 2.0 technology (Ferro and Molinari 2009).

During government 1.0 era, despite the availability of public services (such as e-payment, request for service, bill inquiry, etc.) that allow for a simple and convenient manner to access services, governments fail to promote their use (Veljković et al. 2012). Interacting with the government was through their portals using emails or feedback forms. Even when citizens used these tools to express their questions and petitions, lack of response from the governmental side renders these tools ineffective as a dialogue medium (Debra 2012). It appears that governments needed to provide a more interactive approach to understand citizens' needs and engage them in being a major stakeholder in the decision-making process. A study conducted by ACT Government (2010) refers to a number of advantages when engaging people in the public policy making. First, individuals and groups will convey experience and expertise, which may not be available within government institutions. Second, governments will obtain citizens' support to government projects in the implementation phase. Finally, citizens' involvement will increase awareness and knowledge of local population about the vision of the government and the development of its social leaders.

When incorporating ICT to strengthen democracy and public involvement in policymaking, Caldow (2004) states that increasing engagement and influence of citizens induces the demand for more interactive tools. Web 2.0 technologies provide collaborative and dynamic applications supporting the creation of an environment of "openness and networking" (Tapscott and Williams 2006). These applications enable citizens to express their views and ideas, and share their knowledge in different forms (text, audio, and video) through the use of social networks, blogs, etc. Since Web 2.0 tools make information more available and participation more effective, they would assist citizens in finding opportunities to participate in the decision-making process, or at least would raise the level of collective public consciousness. Such benefits would aid governments in promoting themselves as citizen-centric, transparent, inclusive, and networked (Osimo 2008).

The participation in decision-making is an important matter in democratic governments; this participation is much less practiced in developing countries, which depend on bureaucratic systems, with lack of accurate information and transparency in dealing with their citizens. Most bureaucratic systems adopt a top-down approach in shaping and implementing public policy, without any public participation, which results in people becoming more distant from government and its decisions. Web 2.0 would even contribute positively to bureaucratic systems by making their work more visible and accountable (Wood 2010), which could benefit both citizens and government for efficient social transformation (Prasopoulou 2010).

Even though the value of government 2.0 in citizens' participation is acknowledged, there is a scarcity in demonstrating its implementation (Dixon 2010). Therefore, this chapter attempts to fill a research gap and to add to the body of knowledge of the application of Web 2.0 in civic engagement by the public sector. The chapter aims also to provide an overview of Web 2.0 use to assist governments in better exploiting the features of Web 2.0 tools since most developing countries have not yet reaped sufficient benefits from this relatively emerging technology. The main purpose of the research is to investigate the extent of Web 2.0 application by Arab governments. In particular, it addresses a number of research questions:

- How Arab governments are using Web 2.0 technology?
- Are Arab governments utilizing Web 2.0 features successfully?
- Is there a difference in Web 2.0 use among countries sharing a number of common characteristics?
- Are Arab-Spring governments using Web 2.0 more efficiently than well-established Arab regimes?

Arab countries are selected to examine the variations of Web 2.0 use in nations that share several similar characteristics (language, religion, culture, close geographic locations), and follow bureaucratic regimes. Moreover, conducting such study is particularly important to note if there exists a difference in Web 2.0 use among governments of well-established regimes and governments of the Arab Spring revolutions—started in 2011, and sent optimistic signals for democratic transformation—where social networks among other Web 2.0 tools played an integral part in their success (Howard et al. 2011). To achieve the study's objective, a qualitative research was first conducted to review the literature related to Web 2.0 and its applicability in the public sector. In addition, a comparative analysis of a sample of portals representing Arab governments was carried out to evaluate the extent of Web 2.0 implementation, and its role in enhancing public participation to achieve social, economic and political transformation.

The research starts by clarifying the meaning of Web 2.0, its different stages, and its applicability on the different stages of e-government implementation. Next, it assesses the extent of use of Web 2.0 tools in Arab countries through checking the availability of different applications in several Arab e-government portals, and how they are employed. The results of the analysis will be discussed followed by conclusions and recommendations with respect to future research areas.

## 4.2 What is Web 2.0?

Web 2.0 is the term given to sites, services, and applications that are available with a set of properties. This term was coined in a meeting held between O'Reilly and Media Live International. During this meeting, experts from both sides tried to set a specific basis of differentiation between sites using traditional Web 1.0 and the new generation of sites with Web 2.0 (O'Reilly 2005). Experts at this meeting tried to specify concepts that distinguish Web 2.0 from Web 1.0 applications. The main rules agreed upon during the meeting were:

- *Intelligent and creative sense:* e.g., Google as a search engine uses intelligent search and has creative sense.
- *End Software Life Cycle:* maintenance and updating will be a continuous developmental process.
- *Supporting technologies:* Web 2.0 is supported by development and programming techniques such as AJAX, RSS, XML, XSLT, XHTML, and CSS.
- *Ease of use:* being user friendly, Web 2.0 tools allow the user to build the content himself or be involved in building it.
- *Services rather than software package:* the most important concept of Web 2.0 is the provision of a set of services that can be used through applications, and not a software package.
- *Participation:* users can build and participate in Web 2.0 content through posting ideas and opinions, photos, videos, etc.
- *Access from any site:* Web 2.0 technologies make possibility access to service from any site, by using techniques such as RSS, ATOM, which enable publishing content through any site.

> Thus, Web 2.0 technology is composed of a set of technologies, applications and above all values aim toward efficient interaction between people to foster new businesses, technology offerings and change in social structures. (Keitt et al. from Forrester Research 2010)

Based on the above statements, Web 2.0 can be demonstrated into three main dimensions: values, technologies, and applications (see Table 4.1).

One major advantage of Web 2.0 tools is that -by large- they are free. In addition, their ease of use without the need of downloading any software made it easy for Internet users to master many of these tools instantly.

This chapter is concerned specifically with the social perspective of Web 2.0 referred as Social Web, "in which people use Web 2.0 technologies to facilitate social activities such as information foraging, sharing and tagging, and collaboration." (Chi 2008).

## 4.3 Stages of Implementation: Government 2.0 vs. Government 1.0

Few studies highlighted the stages of implementing Web 2.0 in government (referred to as "government 2.0"). For example, Atari et al. (2011) from Cisco IBSG suggests that reaching government 2.0 should follow three distinct stages: (i) Collaboration

**Table 4.1** Operational description of Web 2.0. (Adapted from O' Reilly 2005 and Keitt et al. 2010)

| | |
|---|---|
| Values | User as producer, Collective intelligence, Perpetual beta, Extreme ease of use. Sharing, Communication, Transparency, Empowerment, Collaboration |
| Technologies | Ajax, XML, Open API, Micro-formats, Flash/Flex, etc. |
| Applications | Blogs, Wikis, Podcasts, RSS feeds, Tagging, Social networks, Search Engines, MMOG (Massively Multi-player OnlineGames), etc |

and Governance within the Public Sector: applying Web 2.0 in internal communication within and across public organizations; (ii) Interactions between Government and the Public: facilitating communication with citizens through different Web 2.0 tools; and (iii) Platform for Social Innovation and Self help: inducing cultural change through encouraging citizens proactive-ness and self-participation in formulating changes for better quality of life (Atari et al. 2011).

Chang and Kannan (2008) present a more detailed 3-stage e-government framework that demonstrates the purpose of each stage: (i) communication; (ii) interaction; and (iii) service. The framework shows also Web 2.0 tools that could be used at each stage, and involved users starting internally among civil servants and developing externally towards covering more citizens until reaching the highest implementation stage: services (see Fig. 4.1). Chang and Kannan (2008) argue that involving government employees first would be easier and would also lead to faster positive outcome. The above studies agree that Web 2.0 implementation should start internally among governmental entities. The same view is supported by Azab et al. (2013) when investigating the use of Web 2.0 in public universities. They claim "incorporating Web 2.0 in e-government should start internally by employees to help them in achieving their tasks. This could be beneficial in two ways; first, to make employees familiar with these applications and to recognize their value, and second, to encourage open culture in government".

Since government 1.0 started several years earlier than government 2.0—late 1990s (Chan and Pan 2008)-, more studies suggested different stages of government 1.0. In general, in government 1.0 era, governments' main objective was to establish an electronic gate that provides services to citizens in diverse sectors. Table 4.2 shows some of the widely acknowledged literature in government 1.0 stages.

Although both government 1.0 and government 2.0 are to be implemented over different phases, they both take different development paths. Unlike government 2.0, research in literature suggest that government 1.0 should start externally through providing information to citizens and then progress towards covering more internal use in government (see Table 4.2).

There are several views that place where best Web 2.0 could fit within e-government different stages. In the United Nations e-government survey 2012, e-participation using Web 2.0 is seen to add value to e-government in the fourth and highest stage of its implementation: networked/connected presence (earlier stages

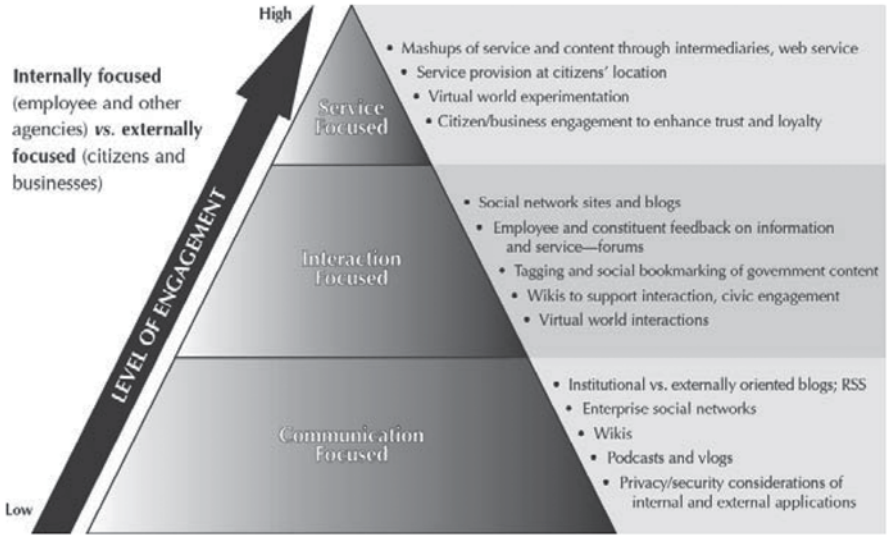


**Fig. 4.1** A framework for government's use of Web 2.0. (Adopted from Chang and Kannan 2008)

are: emerging, interactive, and transactional). However, after reviewing a number of academic articles addressing the use of Web 2.0 in government, Dixon (2010) concludes that majority of the literature covers four of the five e-government stages identified by Moon (2002). The first and second stages (information dissemination and catalogue, and two-way communication) are slightly approached; whereas the third stage: service and financial transaction is not addressed. The largest research body is directed towards stages four and five: vertical and horizontal alignment, and political participation. While revisiting the literature to pinpoint real cases of Web 2.0 implementation in government, Dixon (2010) discovers that Web 2.0 applications are adopted in the first four stages, but notes a possible use of Web 2.0 in the future that support all Moon's stages.

Therefore, the authors argue that Web 2.0 tools could evidently enrich each e-government stage as follows

**Stage 1: Processing** Publish simple information in a more intelligent and creative sense. This could be reached through sending e-newsletters using RSS feeds to provide aggregated and updated news.

**Stage 2: Interaction** Deploy user-friendly interface to communicate e-services and collect feedback using social networks.

**Stage 3: Transaction** Offer new approaches to conduct business through creating a community around a digital market enabling government to commit transactions and/or to be an intermediary to facilitate e-commerce to the public.

**Table 4.2** Understanding phases of E-government. (Adopted from Al-Hashmi and Darem 2003)

| Levels | Gartner | UN/ASPA | Layne & Lee | World Bank | IBM |
|---|---|---|---|---|---|
| Access | Presence | Emerging/ Enhanced | Cataloguing | Publish | Automate/ Enhance |
| Interact | Interaction | Interactive | | Interact | Integrate |
| Transaction | Transaction | Transactional | Transaction | Transact | On demand |
| Integration | Transformation | Seamless | Vertical integration<br>Horizontal integration | | |

**Stage 4: Seamless Integration** Maximize use of web 2.0 tools increasing internal collaboration to dissolve barriers within (vertical integration) or between (horizontal integration) government bodies.

**Stage 5: E-Participation** Utilize social media to create a true timely dialogue with citizens regarding contemporary public issues. This represents the most effective use of Web 2.0 in a society.

## 4.4 Overview of Arab Countries

Arab countries are divided across Africa and Asia (see Fig. 4.2). In Africa, if we move from the west to the east direction, Mauritania is at the far west. Northern African countries are: Morocco, Algeria, Tunisia, Libya, Egypt and Sudan, and Eastern African ones are: Djibouti, Somalia and Comoros. Arab Countries located in Asia are: Gulf countries (United Arab Emirates (UAE), Saudi Arabia, Oman, Bahrain, Qatar, Kuwait), and the remaining nations are Iraq, Jordan, Syria, Yemen, Lebanon, and Palestine. This totals 22 Arab countries (counting North and South Sudan as one).

### *Social Demographics*

Arab countries comprise 22 member states with cultural and ethnical diversity. As per the World Bank, Arab world total population has reached 362.5 million as of 2012 with average population growth rate of 2.3 %. The most populous member state is Egypt, with a population of 90 million people. Djibouti is the least populated with around 500,000 inhabitants. Most of the Arab states of the Gulf Area import a lot of foreign labor from less rich neighboring countries like Yemen, Egypt, Lebanon and Syria; as well as, expatriates from Asia and Africa. For example, the UAE's native inhabitants make up less than 20 % of its overall population. The Arab World religion is Islam with 90 % Muslims, followed by 6 % Christians and 4 % others.


**Fig. 4.2** Arab league map. (Source: Arab League website)

Arabic is the official language of the Arab population with 72, 26 % divided over 27 dialects. Arabic is a non-native language to 20 % of the Arab League's population, with the Somali, Berber and Kurdish languages considered the most widely used after Arabic.

Table 4.3 shows that there is a growing trend in the number of Arab region population over a span of 6 years by 12 % while the GDP is growing with 87 % over the same timeframe. Meanwhile the life expectancy is demonstrating a constant number of years over the same time span.

When looking at each country (see Table 4.4), Egypt is the richest in term of population, human resources amounting to 84 million followed by Algeria amounting to 37.1 million and then Iraq with 33.4 million then Morocco with 32.6 million; however, the richest in term of GDP is Saudi Arabia with 727.3 billion USD and followed by United Arab Emirates with 358.9 billion USD. The wealthiest citizens exist in Qatar with 103,900 $ followed by UAE with 49,800 $ and Kuwait with 40,500 $ then Bahrain with GDP per capita of 29,900 $ as well as Oman with GDP 29,600 $. While the lowest GDP per capita is experienced by Somalian at 600 $ followed by Gaza people at 867 $.

## *Education*

According to UNESCO, the average rate of adult literacy (ages 15 and older) in this region is 76.9 %. In Mauritania and Yemen, the rate is lower than the average, at barely over 50 %. On the other hand, Levant Area registers a high adult literacy

**Table 4.3** Display of Arab population, GDP and Life expectancy over timespan from 2006 until 2011. (The World Bank Group 2014)

| Item/Years | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|
| Population | 317 Million | 324 Million | 332 Million | 340 Million | 347 Million | 355 Million |
| GDP (US$) | 1396 Trillion | 1631 Trillion | 2073 Trillion | 1807 Trillion | 2103 Trillion | 2555 Trillion |
| GDP growth (annual %) | 6 | 6 | 6 | 2 | 5 | 5 |
| Life expectancy at birth, total (years) | 69 | 69 | 69 | 69 | 70 | 70 |

**Table 4.4** Displays Arab region area, population and GDP/GDP per capita of the 22 Arab countries. (Source: CIA FactBook)

| # | Country | Area (Km2) | Population | GDP in $ billion | GDP per Capita in $ |
|---|---|---|---|---|---|
| 0. | Arab league | 13.3 Million | 369 Million | 2,689.9 | NA |
| 1. | Algeria | 2.4 Million | 37.1 Million | 207.8 | 7,600 |
| 2. | Bahrain | 665 | 1.3 Million | 27.03 | 29,900 |
| 3. | Comoros | 2,170 | 767,000 | .600 | 1,300 |
| 4. | Djibouti | 23,000 | 923,000 | 1.354 | 2,700 |
| 5. | Egypt | 1 Million | 84 Million | 256.7 | 6,700 |
| 6. | Iraq | 437,072 | 33.4 Million | 212.5 | 7,200 |
| 7. | Jordan | 92,300 | 6.34 Million | 31.21 | 6,100 |
| 8. | Kuwait | 17,820 | 2.9 Million | 173.4 | 40,500 |
| 9. | Lebanon | 10,400 | 4.3 Million | 41.35 | 16,000 |
| 10. | Libya | 1.76 Million | 6.5 Million | 81.92 | 12,300 |
| 11. | Mauritania | 1 Million | 3.8 Million | 4.199 | 2,200 |
| 12. | Morocco | 446,550 | 32.6 Million | 107.1 | 5,400 |
| 13. | Oman | 212,460 | 2.9 Million | 76.46 | 29,600 |
| 14. | Palestine | NA | 4.5 Million | 10 | 1,924 (West bank)<br>876 (Gaza) |
| 15. | Qatar | 11,437 | 1.9 Million | 183.4 | 103,900 |
| 16. | Saudi Arabia | 2.15 Million | 28.6 Million | 727.3 | 3,800 |
| 17. | Somalia | 637,657 | 9.6 Million | 2.372 | 600 |
| 18. | Sudan | 1.9 Million | 35 Million | 59.94 | 2,600 |
| 19. | Syria | 185,180 | 21.7 Million | 64.7 | 5,100 |
| 20. | Tunisia | 163,610 | 10.7 Million | 45.61 | 9,900 |
| 21. | United Arab Emirates | 83,600 | 8 Million | 358.9 | 49,800 |
| 22. | Yemen | 527,970 | 25,5 Million | 35.64 | 2,300 |

rate of over 90%. The average rate of adult literacy shows steady improvement, and the absolute number of adult illiterates fell from 64 million to around 58 million between 1990 and 2000–2004. Overall, the gender disparity in adult literacy is high in this region, and of the illiteracy rate, women account for two-thirds, with only 69 literate women for every 100 literate men.

The Arab Thought Foundation reports that just above 8% of people in Arab countries aspire to get an education. Literacy rate is higher among the youth than adults. Youth literacy rate (ages 15–24) in the Arab region increased from 63.9 to 76.3% from 1990 to 2002. The average rate of GCC States Cooperation Council for the Arab States of the Gulf (GCC) was 94%, followed by the Maghreb at 83.2% and then the Mashriq at 73.6% (Zogby 2002).

## *Politics*

The Third Arab Human Development Report (AMDGR) for 2010 stated that there are large economic disparities among the different regions of the Arab World (United Nations Development Programme in the Arab States 2010). The Gulf area is being the highest and most stable growing economy since it depends on oil exports to a large extent; for example, oil exports constitute 90% of export earnings in Saudi Arabia and Kuwait (The Heritage Foundation 2013). There are serious initiatives to reduce the dependence on the energy sector through spreading economic activities in other areas (The Heritage Foundation 2013).

Since the rise of the Arab Spring in Tunisia and Egypt, Gulf countries as well as other ones such as, Morocco and Jordan demonstrated economic and political reforms to respond to different protests that took place, which restored their political stability. On the other hand, Arab Spring countries (Syria, Libya, Yemen, Tunisia, and Egypt) are experiencing a political and economical unstable situation. Unemployment and inflation rates are becoming very high while their growth rates are declining. Moreover, Syria is suffering from non-human conditions due to the civil war while there are still no signs of clear resolutions. Libya—that was used to rely on oil exports—is facing political conflicts resulting in a decrease in oil exports. Even though, The Libyan government is currently planning to invest in regaining national security and undertaking a number of political and economical improvements such as, enhancing the services provided to citizens and promoting autonomy in the governme World Food nt (The World Bank 2013). Furthermore, the political environment in Yemen, Tunisia, and Egypt is very fragile (The World Bank 2013). In Yemen, the National Dialogue Conference (NDC) proceedings were delayed many times (Shakdam 2013). There is also a high insecurity atmosphere as a consequence of infighting and tribal battles and a probability of kidnaps of international groups (World Food Programme 2013). As for Tunisia, The political status became very vulnerable especially after the murder of a well-known opposition leader (The World Bank 2013). Egypt is also in a transitional phase since the regime termination of the former president who belongs to the Muslim Brotherhood group.

It is apparent that the early days of the Arab Spring have generated unrealistic expectations of rapid political transformation without a true assessment of the strong effect of a number of cultural issues, such as, the link between religion and politics, and the correct understanding of democracy (Kok 2013). Arab Spring countries are still having a long path to undergo until reaching balance, but Kok (2013) refers to the same question raised in the 1980s in Latin America: "How much poverty can a democracy withstand?" in portraying the risks in this transitional period. The threat is even crucial since the Arab Spring has raised high hopes of a promising future among educated youth struggling in looking for employment opportunities.

### *Technology*

According to Internet World Statistics, the 22 Arab countries represent about 5.27 % of Internet users' world population (Internet World Stats 2012). It is worth mentioning that the Arab region—whether in Asia or Africa—demonstrates one of the highest Internet growth rates in the world. Facebook was conscious to that fast growing market so has tailored, in March 2009, an Arabic language interface to cater for this emerging opportunity. Qatar is achieving the highest rate of Internet penetration (86 %) followed by Bahrain scoring (77 %) in Asia, while Morocco is having the highest ranking in Africa (51 %) followed by Tunisia (39.1 %). The lowest rate of Internet penetration is in Somalia (1.2 %) and Maurtaina (4.5 %).

After reviewing the available information related to ICT in all 22 Arab countries, it was concluded that the main challenges of Internet diffusion in Arab countries can be summarized into a number of issues: lack of independent telecommunication regulatory frameworks, state monopoly over international telecommunications and national phone networks, high cost of computers or network connectivity services (except for Gulf countries), or information technology illiteracy. Positive actions were taken to address some of these challenges: reducing the cost of technology (e.g., Oman, Comoros, Lebanon), promoting competition (e.g., Morocco, Saudi Arabia), introducing and expanding 3G Internet services (e.g., Morocco, Egypt), providing technology to schools (Algeria, Jordan), and expanding Internet connectivity across entire geographically small nations (e.g., Bahrain, Comoros).

## 4.5 Analysis of Using Web 2.0 Technology in Arab Countries

### *Methodology*

Eight countries were selected as a sample of Arab countries where an examination of their use of Web 2.0 is to be carried out. The sample was chosen to represent to a great extent Arab countries since it covers diverse characteristics from different

**Table 4.5** United Nations E-government survey 2012

| Country | E-government development index | E-Participation | United Nations E-Government Survey 2012 world e-government ranking |
|---|---|---|---|
| United Arab Emirates | 28 | 6 | Leader in Asia |
| Saudi Arabia | 41 | 9 | High ranking in Asia |
| Tunisia | 103 | 18 | Leader in Africa |
| Egypt | 107 | 7 | High ranking in Africa |
| Sudan | 165 | 29 | Low ranking in Africa |
| Mauritania | 181 | 32 | Low ranking in Africa |
| Yemen | 167 | 32 | Lowest ranking in Asia |
| Somalia | 190 | 29 | Lowest ranking in Africa |

perspectives such as, geographical distribution, diverse norms and cultures, monarchies and republican regimes, old and Arab Spring regimes, and highest and lowest rankings in United Nations E-Government Survey Report of 2012. The research was performed through visiting the central government portals in these eight countries. The research involves conducting a comparative analysis in terms of e-government and e-participation ranking based on the United Nations E-Government Survey Report of 2012, and noting the availability and update rate of different social media applications. In addition, a study of the content offered in each tool was conducted to provide an idea about the main topics raised at each of the sample countries.

## *Findings*

The first four countries in Table 4.5 are the top ranked in e-government in Asia (United Arab Emirates and Saudi Arabia) and Africa (Tunisia and Egypt) in the United Nations E-Government Survey Report of 2012. The report states also that the last four countries of the sample (Sudan, Mauritania, Yemen, and Somalia) are still considered at their early stages of e-government.

E-participation index was calculated based on three main dimensions: (i) provision of information (e-information sharing); (ii) interaction with stakeholders (e-consultation); and (iii) engagement in decision processing (e-decision processing).

The detection of the availability of direct links to a number of Web 2.0 tools, Table 4.6 shows the presence or absence of Facebook, Twitter, YouTube, RSS, LinkedIn, Wikis, and Blogs.

When comparing e-participation rank with the presence of Web 2.0 tools in each country's portal, it is clear that a direct relation exists.

Findings reveal also that there is no general rule that states that high-ranked e-government countries are using Web 2.0 tools more than low ranking ones. For example, although Tunisia has a higher e-government rank than Egypt, Web 2.0 tools used by the former are less than those used by the latter are:. Tunisia utilizes

**Table 4.6** Web 2.0 tools in 8 Arab countries

| Country | E-Government Website | Face-book | Twitter | You-Tube | RSS | LinkedIn | WIKI | Blogs |
|---|---|---|---|---|---|---|---|---|
| United Arab Emirates | http://www.government.ae/ | ✓ | ✓ | ✓ | ✓ | ✓ | – | ✓ |
| Egypt | http://www.egypt.gov.eg/ | ✓ | ✓ | ✓ | ✓ | – | – | ✓ |
| Saudi Arabia | http://www.saudi.gov.sa/ | ✓ | ✓ | ✓ | ✓ | – | – | – |
| Sudan | http://www.sudan.sd/ | – | – | – | – | – | – | – |
| Mauritania | http://www.mauritania.mr/ | – | – | – | – | – | – | – |
| Somalia | http://www.somaligov.net/ | – | – | – | – | – | – | – |
| Yemen | http://www.yemen.gov.ye/ | – | – | – | – | – | – | – |
| Tunisia | http://www.pm.gov.tn/ | ✓ | – | – | ✓ | – | – | – |

only 2 tools: Facebook and RSS, while Egypt uses 5: Facebook, Twitter, YouTube, RSS, and Blogs. As for low-ranked e-government countries, they still do not utilize any Web 2.0 tool.

In spite of the vast difference in e-government ranking between the highest and lowest (28 and 41 compared to 103 and 107 in Asia and Africa respectively), the difference in their Web 2.0 use is not remarkable. Reviewing the countries' portals shows also that they all contain links to Facebook and RSS. Despite the value of LinkedIn in creating a professional network around the public sector, only UAE government uses it. In addition, it seems that central governments are still not recognizing the importance of adopting Wikis as only local governments use them.

Since one of the research objectives is to assess the difference in e-participation between Arab Spring and other countries, it can be concluded that Web 2.0 adoption is not necessarily higher in Arab Spring countries. Although Tunisia is among Arab Spring countries, its e-participation rank is lower than UAE and Saudi Arabia. However, it is worth noting that different Egyptian public entities have recognized the effect of social networks after the revolution and are communicating with citizens regularly through their Facebook and Twitter accounts such as, the Military, the Cabinet, the President, opposition and other ruling party leaders.

Further, the research has included the frequency of updating the Arab countries their different social media (see Table 4.7).

While exploring the momentum of updating Web 2.0 applications in the four top ranked Arab countries in Asia and Africa, the following insights were detected:

- All four countries continuously update Facebook, Twitter, and RSS feeds.
- YouTube has not been updated for nearly 1 year in Egypt and Saudi Arabia, but is updated every 3 months in UAE.
- Egyptian Blogs have not been updated for nearly 1 year, while Blogs and LinkedIn in UAE are updated every 3 months.
- It is therefore clear that Arab governments direct more attention in the content of Facebook, Twitter, and RSS more than YouTube and Blogs.

Finally, a thorough review of the content of each Web 2.0 tool in the above four countries was undertaken. Several facts were noted:

**Table 4.7** Frequency of updates of Web 2.0 tools in 8 Arab countries

| Country | E-Government website | Facebook | Twitter | YouTube | RSS | LinkedIn | Blogs |
|---|---|---|---|---|---|---|---|
| United Arab Emirates | http://www.government.ae/ | Up-to-date | Up-to-date | Last update: 3 mths. | Up-to-date | Last update: 3 mths. | Last update: 3 mths. |
| Egypt | http://www.egypt.gov.eg/ | Up-to-date | Up-to-date | Last update: 1 year. | | | Last update: 3 mths. |
| Saudi Arabia | http://www.saudi.gov.sa/ | Up-to-date | Up-to-date | Last update: 1 year. | Up-to-date | | |
| Tunisia | http://www.pm.gov.tn/ | Up-to-date | | | Up-to-date | | |

- The number of Facebook subscribers in Arab spring countries is much higher than the other countries (Egypt and Tunisia: 106,000 and 35,000 members respectively compared to UAE and Saudi Arabia: 3160 and 4569 members respectively). This proves that citizens in Arab Spring countries are more interested in their governments' news and in communicating with them.
- In Egypt, the government uses Facebook for political issues such as, explaining the process of political transition, clarifying some political approaches taken by the government, publishing political news ad events, etc. It was also noticed that there is high response by Facebook administrators to any citizen's inquiry. This contrasts with the other three countries where administrators' replies are very low.
- The average number of views of videos on Egyptian YouTube's government is relatively high (1729) as compared to UAE (300) and SA (166).
- In UAE and Saudi Arabia, there is a similarity in the content published in all tools. Governments in these two countries mainly use Web 2.0 to cover regular news about visits and activities of the heads of state or government senior officials. The nature of this content does not trigger any need for citizens' participation.
- Although the number of Internet users at Saudi Arabia is much higher than UAE (13 million vs. 5.9 million), unlike the similarity in Facebook subscribers in both countries, Twitter followers of UAE government are more than double those of Saudi Arabia (19,500 vs. 8146). This reflects the special interest UAE's residents in communicating with their government through Twitter.
- Despite that UAE government is the only country that uses LinkedIn, it has only 24 subscribers and very few discussions, which reflects the inattention of the government in promoting its use.
- A large part of the content in the majority of Web 2.0 pages in all countries attempts to address the international society more than local communities to convey a participatory environment to the outer world.

- Few repeated citizens participate in Web 2.0 applications of all four countries, but this could be attributed to the general evidence that no more than 30% of Web 2.0 subscribers have a real contribution (Busemann and Christoph 2009).
- There is no distinct difference in the content presented through each tool, which shows low awareness from the part of Arab governments of the special features of each Web 2.0 application.

## 4.6 Conclusion and Recommendations

This chapter investigated the use of Web 2.0 in government to promote public participation. An analysis was conducted on the social media applications that have links in eight governmental portals representing a sample of Arab countries. It provides an important source to practitioners and policy makers in Arab governments since it introduces the use of social media for policymaking, and the different stages of their implementation. The authors suggest that rather than basing Web 2.0 adoption of each country's e-government development stage, governments could better use social media to strengthen e-participation at any e-government implementation stage. Incorporating Web 2.0 at an early stage would disseminate the culture of participation both internally in government and externally with the society. The efficiency of Web 2.0 technology provides a valuable opportunity for increasing e-participation, especially in Arab Spring countries where Internet users are increasing at a very high rate, and citizens are highly appreciative to the value of Web 2.0. For example, Pew Research (2014) reported that 88 and 85% of Internet users in Egypt and Tunisia respectively use online social media. In particular, the number of Egyptian Internet users has increased 40% and Facebook subscribers three times since the Arab Spring (Schumpeter Columnists 2014). There is an urgent need in these countries for a continuous mutual dialogue between governments and citizens during this transitional period. The free use of these applications would also encourage their adoption since Arab Spring countries currently suffer considerable economic challenges.

The research findings reveal that Arab governments are using different Web 2.0 applications, but are not always updating all the content they provide through each tool. Moreover, the study confirms prior studies that state that Arab countries are still at an initial stage of government 2.0 (Moore 2011). Arab governments are not yet providing innovative and well-defined projects (some examples of these applications are presented in Osimo (2008), United Nations E-Government Survey (2012), Mutohar and Hughes (2013), and Chua et al. (2011)), and are favoring the launching of any Web 2.0 application rather than determining its strategic objective. This easy superficial manner of utilizing the technology will not by itself enhance citizens' participation; on the contrary, it would sometimes support autocratic regimes in strengthening their power through promoting their own governance approach, without a serious interest in encouraging citizen engagement and participa-

tion (Linde and Karisson 2013). This clarifies the high e-participation rank reflecting an e-democratic environment (Macintosh 2004) in Arab countries despite their non-democratic nature (Åström et al. 2012).

The study noted also some similarities in the content provided by governments in monarchies regimes, since it reflects mainly the activities of government or state leaders. It is also apparent that UAE citizens are interested in connecting with their government through Twitter application. This could be due to the dynamic nature of UAE government in organizing continuous events and publishing them on Twitter: the efficient tool for announcing and promoting coming events. As for Arab Spring countries, the research demonstrated a high number of Facebook subscribers in government Web 2.0 applications. Although Tunisia government uses only Facebook and RSS, Egyptian government used them in addition to YouTube—where it has a remarkable number of views-, Twitter and Blogs. It has been noted also that policy makers are keen in Egypt attach special interest in communicating and respond to their citizens' inquiries and suggestions.

Although the chapter addressed the four questions posed in this research, (How Arab governments are using Web 2.0 technology? Are Arab governments utilizing Web 2.0 features successfully? Is there a difference in Web 2.0 use among countries sharing a number of common characteristics? Are Arab-Spring governments using Web 2.0 more efficiently than well-established Arab regimes?), one can argue that it did not answer them fully. This research could therefore be considered a starting point that leads to further in-depth studies examining Government 2.0 strategies and implementations in Arab countries.

## *Limitations and Suggestions for Future Research*

This research contributes to the knowledge area of e-government and e-participation; where there is still a shortage in investigating different research concepts related to them (Masrom et al. 2013). Even though the study has several limitations: first, it analyzed only the national government portal of each country without considering other official websites of ministries and municipalities. Second, findings represent a glimpse of the status of Web 2.0 applications of Arab Governmental main portals at a certain time, and not over a period to note any progress. These limitations could be addressed for future research. Additional research venues could be: (i) additional investigation of Web 2.0 content of Arab governments through: text mining techniques to extract patterns of similarities and differences among Arab and other developed and developing countries, and review case studies of Web 2.0 implementation in these countries; (ii) determine the opportunities and challenges of implementing Web 2.0 in Arab countries; (iii) review theories addressing the relationship between Internet and democracy; (iv) obtain citizens' feedback to Web 2.0 content provided by their government; (v) assess the effect of government 2.0 challenges on limiting the effective adoption of Web 2.0 in developing countries in general and in Arab ones in particular such as, poor infrastructure, culture,

institutional corruption, non-democratic regimes, economic problems, poor educational standards, inefficient administrative systems, political instability, etc.; or (vi) develop a framework that encompasses different dimensions of Web 2.0 application in developing countries.

## *Recommendations for Arab Governments*

Currently, there is no single consolidated set of users' contributions of Web 2.0 (Osimo 2008), nevertheless, this section provides some guidelines that could pave the way for more concrete initiatives in capitalizing on the value Web 2.0 tools could add to Arab governments. Most importantly, there is an urgent need in these countries for a continuous mutual dialogue between governments and citizens during this transitional period. Based on the research findings, it is recommend for governments to exert more effort in customizing Web 2.0 content according to their socio-cultural context. The flexible features of Web 2.0 technology enables catering any content to local cultures to promote made-in-developing country models (Effah 2012). Hence, the content must not replicate strictly models from the developed world as best practices.

The most effective strategy to implement Web 2.0 within government systems is through its inclusion in the roadmap planning of the overall government setup from top to down reinforced by a strong political will for the developmental change in the process of work interface with public community. Hence, these tools would be regarded at the strategic level aligned with the strategic goals and objectives of Arab governments. A key approach in this direction is to understand the specific features of each Web 2.0 application as well as the demographics of the segments of the citizens using it to identify the underlying objective, strategy, and content relevant to each one. Also, implementation can be on phases with starting by knowledge-intensive domains such as patent reviews since there is a great need to leverage information and community assets in Arab governments lacking the easy access to credible information.

A third enabler is the availability of a wide range of public data for re-use in a customer friendly interactive manner, thus whenever this condition is fulfilled, consultants and concerned managers do advise policy makers to utilize Web 2.0 technology as a facilitating tool for public interaction and better output. One of the important lessons learned is the presence of a dedicated ownership for the project with a monitoring and measuring tool to assess results and take immediate corrective actions whenever required.

Further relevant governance polices must be set in place based on exiting codes. Key references could be the work carried out by the New Zealand Network of Public Sector Communicators, such as the 10 principles for public sector social media (stated in Wooden 2007), and the reflections of the BBC Web team (Loosemore 2007).

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