

# **IMPROVING THE TRANSPARENCY, OPENNESS AND EFFICIENCY OF E-GOVERNMENT IN QATAR IN THE ERA OF OPEN GOVERNMENT DATA, AND BEYOND**

**Ali Selham Al-Kubaisi**

B. Sc. (Computer Engineering), Florida Institute of Technology

Master of Information Technology, University of Newcastle

Principal Supervisor:

**Professor Anne Fitzgerald**

Associate Supervisor:

**Dr. Benjamin McEniery**

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Qatar, E-Government, Web 2.0, Open Government, Open Government Data, OGD, Open Data, Social Media, Social Networks, Participative Networks, Transparency, Participation, Civic engagement, Public participation, Openness.

# Abstract

Using the Internet, governments can gain huge benefits in terms of savings in their national expenditure, dissemination of public information, and provision of services in more efficient and effective ways than were previously possible. Consequently, e-Government has become a global phenomenon. Governments, both in the developed and developing world, are making significant investments in order to gain more efficient, open and interactive government. However, the general public's acceptance of e-Government has lagged behind expectations. Governments worldwide are now embracing Web 2.0 technologies to increase the adoption of their e-Government systems, by further opening up their systems and transactions towards more transparent and participative government, through Open Government and Open Government Data initiatives.

This thesis investigates how Open Government Data (OGD) concepts and practices might be implemented in the State of Qatar, as a case study of developing countries, in order to achieve more transparent, effective and accountable government. This investigation begins with an examination of how governments in the developed world are using the Internet and information and communication technologies to disseminate government information and to open up their internal transactions for public scrutiny, and discusses the factors contributing to these developments. This is followed by an in-depth case study of OGD practices in the State of Qatar through examination and analysis of its current OGD initiative and direct interviews with the responsible government officials. The thesis concludes with recommendations for Qatar on how to enhance the accessibility and reusability of its OGD and implement successful and sustainable OGD systems and practices, thereby increasing government transparency and openness.

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## **Statement of Original Authorship**

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature: QUT Verified Signature

Date: 06/08/2014

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# Chapter 1: Introduction

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## 1.1 OVERVIEW

Information and communication technologies (ICT) and the constant expansion of the World Wide Web during the past two decades have dramatically transformed the lives of people globally. We live in an era in which the online electronic environment permeates every part of our lives. This is reflected in many ways, ranging from how people interact with each other in exchanging personal information on a social level, through to how individuals communicate using complex business interactions in the online environment, in what has become known as ‘e-commerce’. The uptake of the Internet has not been limited to the commercial sector. Governments and public sector organisations have followed suit, introducing electronic Government — ‘e-Government’ — initiatives designed to enable Government to provide services and interact with citizens in an ICT-enabled medium.

By using the Internet and ICTs, governments can gain great benefits in terms of savings in their national expenditure, improved dissemination of public information, and more efficient and effective provision of services. Consequently, e-Government has become a global phenomenon. However, acceptance of e-Government by the public has proven to be challenging and the rate of adoption of e-Government has fallen short of expectations. To encourage uptake by the public of e-Government systems, and to realise the benefits that flow from harnessing the Internet and ICTs, in recent years governments in both developed and developing countries have begun to further open up their systems and transactions in a new phase of e-Government activity. Central to this new wave of e-Government programs are Open Government Data (OGD) initiatives that enable citizens to access, use, reuse, and redistribute government data and information. By implementing OGD practices and systems, public sector organisations and government bodies are harnessing ICT tools to enhance civic engagement and empower their citizens with greater access to government information.

## **1.2 THE PURPOSE OF THIS RESEARCH**

The central focus of this thesis is to examine how Open Government Data (OGD) concepts and practices might be implemented in the State of Qatar, a developing country in the Middle East region, in order to achieve more transparent, effective and accountable government. In addressing this question, at the outset the research considers the benefits to be gained by embracing OGD practices and systems. Recently, the OGD movement has gained considerable momentum due to the significant developments introduced in pioneering developed countries, notably the United Kingdom and the United States. Based on an examination and analysis of OGD progress in developed countries, this research formulates an Open Government Data Success Model (OGDSM), which will be implemented and applied in the context of the State of Qatar. The research investigates the current status of OGD in Qatar, to understand the key driving forces behind the launch of its OGD initiative to open up government data and information, followed by an analysis of the approach adopted by Qatar to initiate and manage its OGD program. Drawing on these findings as well as in-depth interviews with the government officials responsible for Qatar's OGD initiative, the research identifies the key challenges to the further advancement of OGD in Qatar, and concludes with observations and recommendations on how Qatar's OGD initiative can be improved, strengthened and sustained. In particular, it sets out recommendations for practical steps to be taken by Qatar to improve the accessibility of government assets of data and information, and thereby contribute to government transparency and openness.

## **1.3 BACKGROUND**

Electronic Government – or 'e-Government' – includes, but is not limited to, the publication of information on a website which citizens can access to download application forms for different government services such as filing a tax return, renewing a licence, or even paying fines.<sup>1</sup> Many of the basic services that, before the advent of e-Government, required citizens to wait in line in a bricks-and-mortar government building, can now be transacted online, anywhere and anytime.

Many benefits flow from embracing ICT in government organisations. Readily identified benefits include improving the delivery of government services,

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<sup>1</sup> S Bhatnagar, 'E-government and access to information' (2003) *Global Corruption Report*.

empowering citizens through greater access to information, enhancing transparency and increasing government accountability, improved efficiency and revenue generation, and strengthening of the relationship between government and citizens.<sup>2</sup> E-Government is a prominent and efficient tool for fighting corruption; by adopting ICTs and the Internet governments can open up their processes and enable greater public access to public information.

In view of these and other benefits, governments around the world have embraced e-Government and ICT-based applications. The United States, some European Union countries, Australia, and others were early adopters of e-Government.<sup>3</sup> The United Nations and the American Society for Public Administration indicated in their global e-Government report of 2002 that, among the 190 UN member states, 88.9% were, to some extent using the Internet to deliver information and services to their citizens.<sup>4</sup>

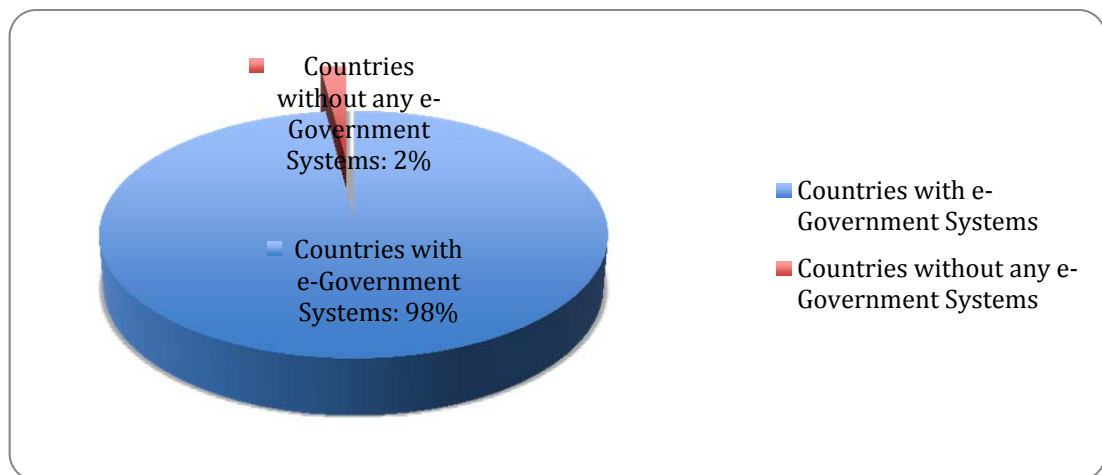


Figure 1 : United Nations representation of e-Government pervasiveness worldwide 2010

The United Nations survey of worldwide e-Government activities in 2010 indicated that 98% of countries had initiated and launched a presence on the web by

<sup>2</sup> UNESCO, E-government toolkit for developing countries (2005) <<http://unesdoc.unesco.org/images/0013/001394/139418e.pdf>>.

<sup>3</sup> S Mofleh and M Wanous, 'Developing Countries and ICT Initiatives: Lessons Learnt from Jordan's Experience' (2008) 34 *The Electronic Journal of Information Systems in Developing Countries*.

<sup>4</sup> United Nations Division of Public Economics and Public Administration and the American Society for Public Administration, 'Benchmarking e-Government: A Global Perspective' (2002) <[http://www.itpolicy.gov.il/topics\\_egov/docs/benchmarking.pdf](http://www.itpolicy.gov.il/topics_egov/docs/benchmarking.pdf)>.



establishing e-Government websites.<sup>5</sup> The United Nations e-Government survey conducted in 2012 recalled that in 2003, only 18 countries did not have e-Government systems in place. Since then, the number of countries without a government presence online has fallen to three, namely, the Central African Republic, Guinea, and Libya.<sup>6</sup>

However, notwithstanding the huge investment of financial resources in e-Government initiatives, and the time and effort expended by highly skilled technicians, in many parts of the world the uptake and practical utilisation of e-Government services has not been as strong as expected.<sup>7</sup> In fact, through the first decade of the 21<sup>st</sup> century, the adoption of e-Government services remained surprisingly low worldwide. By contrast, since 2003, a new wave of web-based applications, which have come to be known under the generic banner of 'Web 2.0', have grown hugely in popularity and are widely used. These developments have created a paradox: while low-budget, user-driven new web applications have been widely adopted, the uptake of expensive, large-scale government web applications (e-Government) has remained low.

This paradox is the starting point of this research. It is considered in the context of developing countries, and more precisely, in the case of Qatar. Similarly, it has also been the starting point of on-going research in developed countries.<sup>8</sup> With the objective of increasing uptake of e-Government by the public, this thesis seeks to understand how leading e-Government countries have gone beyond simply introducing their services online, and are adopting the latest ICT tools to open up their data and information through Open Government Data (OGD) initiatives.

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<sup>5</sup> United Nations Public Administration Network, 'United Nations E-Government Survey 2010' (2010) UN Doc ST/ESA/PAD/SER.E/131

<[http://www2.unpan.org/egovkb/documents/2010/E\\_Gov\\_2010\\_Complete.pdf](http://www2.unpan.org/egovkb/documents/2010/E_Gov_2010_Complete.pdf)>.

<sup>6</sup> United Nations Public Administration Network, 'E-Government Survey 2012: E-Government for the People' (2012) ST/ESA/PAS/SER.E/150

<<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf>>.

<sup>7</sup> C G Wescott, 'E-government in the Asia-Pacific Region' (2001) 9 *Asian Journal of Political Science* 1; David Osimo, 'Web 2.0 in government: why and how' (2008) EUR Number: 23358 EN *Joint Research Centre (JRC) Scientific and Technical Reports*; S Al-Shafi and V Weerakkody, 'Understanding Citizens' Behavioural Intention in the Adoption of e-Government Services in the State of Qatar' (2009).

<sup>8</sup> Osimo, above n 7.

## 1.4 KEY CONCEPTS

Throughout this thesis several key concepts and terms are used. At the outset, these concepts and terms are introduced and defined, as follows:

**Open Government:** Open Government is a new and evolving strategy for changing how governments communicate with their constituents by using networked technologies in more innovative ways. It enables government to seek help and support from its citizens, whenever needed, in solving persistent problems, so the end result is more effective institutions and a more robust democracy.<sup>9</sup>

**Open Data:** Any data or information is regarded as ‘open’ if it is available free of charge for everyone to access, use, reuse, and redistribute without restrictions. Ideally, such data should be made available in both human-readable and machine-readable formats, and be devoid of any personal information. If the government has produced data and information that are available to the public in accordance with Open Data principles, it is referred to as Open Government Data.<sup>10</sup>

**Open Government Data:** According to The Open Knowledge Foundation (OKF), Open Government Data is information that is produced or commissioned by government or a government controlled entity, which is ‘open’ in the sense that it can be freely accessed, used, reused, and distributed by anyone in the country.<sup>11</sup> The OKF lists three main factors that are driving the opening up of government data to the public domain:<sup>12</sup>

- Transparency: Citizens, in an effective and efficient government, do not just need to access government data, rather they need to be able to use it, reuse it, analyse it, visualize it, and share it amongst themselves more openly and freely.
- Social and commercial value: In the current digital age, governments need to unleash the potential of their long-held data and information, in order to gain

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<sup>9</sup> Beth Simone Noveck, *Wiki government: how technology can make government better, democracy stronger, and citizens more powerful* (Brookings Institution Press, 2009).

<sup>10</sup> United Nations, 'Guidelines on Open Government Data for Citizen Engagement ' (2013) UN Doc ST/ESA/PAD/SER.E/177  
<<http://www.unpan.org/DPADM/EGovernment/OpenGovernmentDataandServices/tabid/1536/language/en-US/Default.aspx>>.

<sup>11</sup> The Open Knowledge Foundation, *Welcome to Open Government Data*  
<<http://opengovernmentdata.org/>>.

<sup>12</sup> Ibid.

additional social and commercial benefits from their data collections and to boost innovation activity.

- **Participatory governance:** In an Open Government Data environment, citizens are engaged more proactively and are involved more actively in decision-making processes. This goes beyond mere transparency, as it enables the enablement of a fully ‘read/write’ society. Citizens, do not just know what is happening in their governments, but are active contributors to change and modifying circumstances for the better.

Governments hold vast quantities of untapped resources of high quality data produced in the course of their ordinary operational activities. It is impossible to predict or conceptualise the full extent of the benefits to be gained by opening that data to the public domain, as there is myriad of innovative ways in which the data can be used to create added value.

**Developing Countries:** There is no single and definite definition or established convention of the term ‘developing country’. International organisations categorise countries based on various factors and classification systems. The United Nations, for example, classifies countries on the basis of factors such as income, education, healthcare, and life expectancy. The International Monetary Fund (IMF) classifies countries into two major groups, namely, advanced economies, and developing economies.<sup>13</sup> The World Bank, on the other hand, defines developing countries as those that are low or middle-income countries compared with developed countries, and where living standards are thought to be low relative to high-income countries. On this basis, the World Bank classifies countries according to their gross national income (GNI) *per capita* into the following four main categories:<sup>14</sup>

- 🇺🇸 Low income countries (\$995 or less)
- 🇺🇸 Low middle income countries (\$996 - \$3,945)
- 🇺🇸 Upper middle countries (\$3,946 - \$ 12,195)
- 🇺🇸 High income countries (\$12,196 – or more)

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<sup>13</sup> International Monetary Fund, *World Economic Outlook Report* <<http://www.imf.org/external/pubs/ft/weo/2012/01/pdf/text.pdf>>.

<sup>14</sup> The World Bank, *How we Classify Countries* <<http://data.worldbank.org/about/country-classifications>>.

As a general rule, a developing country is one that has a *per capita* gross national income that is less than US\$2,000.<sup>15</sup> However, this benchmark in itself is not sufficient to categorise a country as a ‘developing’ one. Not all developing countries are experiencing the same level or degree of development as each country has its own constraints and limitations. Developing countries, in general, have low standards of living and low industrial capacity compared to their counterparts in the developed world.<sup>16</sup>

**Web 2.0:** It is a new wave of web-based applications that enable people to interact, collaborate, and share information online. Examples of Web 2.0 applications and the technologies underpinning them are further elaborated in Chapter 2 of this thesis.

## 1.5 E-GOVERNMENT

### 1.5.1 What is meant by ‘e-Government’?

There are many different definitions of e-Government in the literature, but they all include the concept of the use of technology by government or public sector organisations to serve their stakeholders (which span citizens, business, and public sector organisations, to other agencies within the government). For example, Bonham and Seifert define e-Government as ‘using information technology, and especially the Internet, to deliver government information, and in some cases, services, to citizens, businesses, and other government agencies’.<sup>17</sup> For Layne and Lee, e-Government means ‘government’s use of technology, particularly web-based Internet applications, to enhance the access to and delivery of government information and services to citizens, business partners, employees, other agencies, and government entities’.<sup>18</sup>

A 2003 study of e-Government by the Organisation for Economic Co-operation and Development (OECD) defines e-Government to mean ‘the use of ICTs, and

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<sup>15</sup> Valentina Ndou, 'E-government for developing countries: opportunities and challenges' (2004) 18 *The Electronic Journal of Information Systems in Developing Countries* <<https://www.ejisdc.org/ojs2/index.php/ejisdc/article/view/110/110>>.

<sup>16</sup> The World Bank, above n 107.

<sup>17</sup> J W Seifert and G M Bonham, 'The Transformative Potential of E-government in Transitional Democracies' (2003) 11(2) *Public Administration Electronic Bulletin Lomonosov Moscow State University* 19 <<http://old-ej.spa.msu.ru/images/File/2003/bonham%281%29.pdf>>.

<sup>18</sup> K Layne and J Lee, 'Developing fully functional E-government: A four stage model' (2001) 18 *Government Information Quarterly* 122.

particularly the Internet, as a tool to achieve better government'.<sup>19</sup> The RAND research organisation,<sup>20</sup> on the other hand, defines e-Government generally as 'any transaction that involves the government and is carried out, even partially, using electronic means'.<sup>21</sup> It further explains that those services and transactions span everything from simple informational websites to more complex, fully interactive dialogues between the government and its stakeholders, mediated by ICT.<sup>22</sup>

In 2002, the United Nations Division for Public Economics and Public Administration (UNDPEPA) conducted a research project jointly with the American Society for Public Administration (ASPA) to benchmark e-Government activity among all the United Nations member states. This study characterised e-Government as 'utilizing the Internet and the world-wide-web for delivering government information and services to citizens'.<sup>23</sup> The World Bank defines e-Government as 'the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government'.<sup>24</sup>

UNESCO defines e-Government as 'the use of Information and Communication Technologies to promote more efficient and effective government, and make it more accessible and accountable to the citizens'.<sup>25</sup> In another publication, UNESCO defines e-Government as 'the use of Information and Communication Technologies to promote more efficient and effective government, and make it more accessible and accountable to the citizens'.<sup>26</sup> For the purposes of this research, this definition will be adopted to as the meaning of e-Government.

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<sup>19</sup> OECD, 'The E-government Imperative: Main Findings' (2003)  
<<http://www.oecd.org/dataoecd/60/60/2502539.pdf>>.

<sup>20</sup> RAND Corporation, *Roadmap for E-Government in the Developing World*  
*10 Question E-Government Leaders Should Ask Themselves*  
<[http://www.rand.org/pubs/external\\_publications/EP20020404.html](http://www.rand.org/pubs/external_publications/EP20020404.html)>.

<sup>21</sup> RAND, 'Benchmarking e-Government in Europe and the US' (2003)  
<[http://www.rand.org/pubs/monograph\\_reports/2005/MR1733.pdf](http://www.rand.org/pubs/monograph_reports/2005/MR1733.pdf)>.

<sup>22</sup> Ibid.

<sup>23</sup> United Nations Division of Public Economics and Public Administration and the American Society for Public Administration, 'Benchmarking e-Government: A Global Perspective' (2002)  
<[http://www.itpolicy.gov.il/topics\\_egov/docs/benchmarking.pdf](http://www.itpolicy.gov.il/topics_egov/docs/benchmarking.pdf)>.

<sup>24</sup> The World Bank, *E-government Definition* <<http://go.worldbank.org/M1JHE0Z280>>.

<sup>25</sup> UNESCO, above n 2.

<sup>26</sup> Ibid.

### 1.5.2 Chronology of e-Government

As the Internet created massive opportunities for governments to better serve their citizens and businesses,<sup>27</sup> there was an explosion in governments' use of the Internet to deliver services to their stakeholders. The information and communication revolution that occurred in the 1980s and 1990s not only impacted on everyday activities but also changed the characteristics of the interaction between governments and their citizens.

From the mid-1990s, public and private sector organisations alike have grappled with how best to harness the new technologies to provide their services and information to develop their relationship with their stakeholders. In general, the private sector was more proactive in embracing ICT as a means of communicating, interacting and transacting, whereas governments were initially cautious.<sup>28</sup> But, as Jaeger observes, this initial caution dissipated quite quickly and by the early 2000s many governments had initiated e-Government projects: 'a decade ago, even the most technologically aware experts probably would have found the state of e-government in 2003 to be surprisingly robust'.<sup>29</sup>

As governments became more aware of the huge potential of ICT they sought to optimise and maximise the benefits to be attained<sup>30</sup> by deploying new ways of interacting and communicating with their stakeholders through various e-Government initiatives.<sup>31</sup> From only three initiatives worldwide in 1996, the number of e-Government projects increased rapidly to reach more than 500 by 2001.<sup>32</sup> As noted earlier, an e-Government survey conducted by the United Nations in 2010 indicates that 98% of countries in the world have initiated and launched a presence

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<sup>27</sup> Toshio Obi, 'Current topics in the discussion on the relationship between e-governance and education' in *Proceedings of the 2nd International Conference on Theory and Practice of Electronic Governance* (ACM, 2008)

<sup>28</sup> Accenture, 'eGovernment Leadership: Rhetoric vs Reality - Closing the Gap' (2001) <<http://www.accenture.com/SiteCollectionDocuments/PDF/2001FullReport.pdf>>.

<sup>29</sup> Paul T Jaeger, 'The endless wire: e-government as global phenomenon' (2003) 20 *Government Information Quarterly* 323.

<sup>30</sup> J Choudrie and Y K Dwivedi, 'A Survey of Citizens' Awareness and Adoption of E-government Initiatives, the E-government Gateway: A United Kingdom Perspective' (Paper presented at the eGovernment Workshop '05 (eGOV05), Brunel University, London, 2005).

<sup>31</sup> W Huang, J D'Ambra and V Bhalla, 'An empirical investigation of the adoption of e-government in Australian citizens: Some unexpected research findings' (2002) 43 *The Journal of Computer Information Systems* 15.

<sup>32</sup> G Al-Kibsi et al, 'Putting citizens on-line, not in line' (2001) *McKinsey Quarterly* 64.

on the web, through their e-Government websites.<sup>33</sup> As Jaeger observes, “e-government has been embraced with great enthusiasm by many governments” and “truly has become a global phenomenon”, as local, regional, and national governments worldwide established a presence online.<sup>34</sup> Stoltzfus argues that while it is not unusual for governments to try to harness IT to improve their services, what is extraordinary is “the widespread execution of these programs around the globe”.<sup>35</sup> He adds that nations worldwide, ranging from “developed to developing, capitalist to communist, democratic to authoritarian”, are all spending resources to initiate a presence on the web.<sup>36</sup>

In Australia, e-Government developed very rapidly. In 1997, the Federal Government pledged to deliver all appropriate government services online by 2001. Considerable investments have been allocated to develop State and Federal level online systems. At the Federal level, the e-Government initiative (the Government Online Project) ran under the auspices of the National Office for the Information Economy (NOIE), whereas at the State level, Victoria led the way in implementing e-Government.<sup>37</sup> International surveys have ranked Australia among the world’s leading countries in e-Government implementation. The 2010 e-Government survey of United Nations member states placed Australia eighth in the world on the e-Government development index.<sup>38</sup> Likewise, a 2007 global e-Government survey by Brown University also ranked Australia eighth in the world in terms of the online availability of government services and information.<sup>39</sup>

In Europe, e-Government has been on the priority agenda since 1999.<sup>40</sup> The eGovernment Action Plan 2010, adopted by the European Union on 25 April 2006,

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<sup>33</sup> United Nations Public Administration Network 'United Nations E-Government Survey 2010' (2010) UN Doc ST/ESA/PAD/SER.E/131  
<[http://www2.unpan.org/egovkb/documents/2010/E\\_Gov\\_2010\\_Complete.pdf](http://www2.unpan.org/egovkb/documents/2010/E_Gov_2010_Complete.pdf)>.

<sup>34</sup> Jaeger, above n 29.

<sup>35</sup> K Stoltzfus, 'Motivations for implementing e-government: an investigation of the global phenomenon' (Paper presented at the National Conference on Digital Government Research, Atlanta, 2005).

<sup>36</sup> Ibid.

<sup>37</sup> M McDonagh, 'E-government in Australia: the challenge to privacy of personal information' (2002) 10 *Int'l JL & Info. Tech.* 327.

<sup>38</sup> United Nations Public Administration Network (UNPAN), *United Nations E-Government Survey 2010* UN Doc ST/ESA/PAD/SER.E/131  
<[http://www2.unpan.org/egovkb/documents/2010/E\\_Gov\\_2010\\_Complete.pdf](http://www2.unpan.org/egovkb/documents/2010/E_Gov_2010_Complete.pdf)>.

<sup>39</sup> Brown University, *RSS Seventh Global e-Government Study*  
<<http://news.brown.edu/pressreleases/2007/07/global-e-government>>.

<sup>40</sup> Osimo, above n 7.

made e-Government a major goal on the European agenda and identified ‘Achieving an Inclusive European Information Society’ as one of its main priorities.<sup>41</sup> ICT-enabled public sector online services play a prominent role in achieving this priority.

### 1.5.3 Significance and Driving Factors

Many governments around the globe are striving to provide better online services and to increase their citizens’ engagement and participation.<sup>42</sup> Government transactions that previously required face-to-face contact can be now conducted electronically. Citizens, businesses, and even government employees can deal with government agencies in a more convenient and direct way, through online communications that are available around the clock.<sup>43</sup>

As Obi asserts, ‘globalization produces competition everywhere’. For governments, globalisation forces them towards improved cost efficiency and greater productivity through continuing improvements in their operations and in their public service provision. He argues that, in the information society, people are ‘expected to have an attitude towards lifelong learning and knowledge acquisition’. He maintains that the traditional system, which had previously been working effectively, is essentially not capable of doing so today, given the advances in technology and the emergence of global economic competition. Governments, Obi says, are in need of new public management programs to further improve their management, interfaces, accountability, and transparency.<sup>44</sup>

According to research by Al-Kibsi et al on realising the potential of e-Government, ‘the real value of e-Government derives less from simply placing public services on-line than from the ability to force an agency to rethink, reorganise, and streamline their delivery before doing so’. Moreover, they assert that it is not only ‘Internet-savvy’ developed countries that can benefit from those initiatives but that e-Government offers a great opportunity to the developing nations as well.<sup>45</sup>

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<sup>41</sup> Ibid.

<sup>42</sup> D de Kool and J van Wamelen, ‘Web 2.0: A New Basis for E-Government’ (Paper presented at the Information and Communication Technologies: From Theory to Applications Conference, Damascus, Syria, 2008)

<sup>43</sup> RAND, above n 20.

<sup>44</sup> Obi, above n 27.

<sup>45</sup> Al-Kibsi, above n 32.



Choudrie and Dwivedi argue that e-Government is more than just an automation of current government functions.<sup>46</sup> Barc and Cordella assert that e-Government can ‘dramatically improve all areas of government activities, from democratic participation ... to improving the efficiency of citizens’ interaction with the government’.<sup>47</sup> Kaliannan et al assert that successful delivery of an online service has become ‘an important measure of effective public sector management’, resulting in increased deployment of e-Government initiatives around the world as a tool for achieving this objective. They state that ‘the transformation of government into e-Government turns out to be a global phenomenon’.<sup>48</sup>

Worldwide, the quest to improve government service delivery systems is becoming a priority because of the opportunities created by ICTs and the Internet.<sup>49</sup> With the heightened expectations of citizens and businesses, governments find themselves under pressure to prove their adaptability to change and their capacity to interact in a changing environment. UNESCO puts it very clearly and frankly when it says that ‘economic development in this competitive, rapidly changing world will be penalised by delays in implementing e-Government reforms.’<sup>50</sup>

#### **1.5.4 Levels and Domains**

ICT and online-based government transactions may occur at different levels and in the various domains in which governments interact with their stakeholders. In any e-Government deployment (implementation), four main bilateral domains can be identified:

- Government-to-Government (G2G): interaction occurring only among government bodies, either internally or externally at local, state and national levels.
- Government-to-Citizen (G2C): interaction between government bodies and citizens, involving, among other things, the provision of information and services. This relationship is the main focus of e-

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<sup>46</sup> Choudrie, above n 30.

<sup>47</sup> Ibid.

<sup>48</sup> M Kaliannan, H Awang and M Raman, 'Technology adoption in the public sector: an exploratory study of e-government in Malaysia' (Paper presented at the International Conference on Theory and Practice of Electronic Governance, Macao, 2007).

<sup>49</sup> Ibid.

<sup>50</sup> OECD, above n 19.

Government projects involving citizen participation and civic engagement.

- Government-to-Business (G2B): interaction between government and the commercial sector, involving purchasing/procurement and regulation of business activity, through policies, standards, rules and regulations and the granting of permits and licences.
- Government-to-Employee (G2E): all interactions between government and its employees, involving matters such as salary, superannuation, welfare schemes and housing.

#### **1.5.5 Benefits and promised outcomes**

The benefits of implementing e-Government flow both to the government itself as well as to its various stakeholders. Better, cheaper, more convenient, more effective and efficient, more open and transparent, and more accountable government can be achieved by embracing e-Government.

UNESCO has suggested five main areas in which benefits can be gained in a fully implemented e-Government system.<sup>51</sup> Those benefits can be summarised as follows:

- Improved delivery of government services: not only can services be enhanced and made more efficient, but equal access to those services can also be provided to all citizens regardless of their physical location (for example, rural or urban areas). More responsive government makes it possible to reach out to those who have previously not been reached.
- Citizen empowerment through greater access to government information and interaction with the government: a stronger democracy and more involved citizenship can be achieved through the enhanced accessibility of government information and the ability to interact and participate with government officials and agencies. Enhanced citizens' participation in government decision-making would increase civic engagement.

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<sup>51</sup> UNESCO, above n 2.

- Increased government transparency and accountability: implementing an ICT-based medium for interaction between government and citizens, through which the latter can follow their requests/applications to the government in easy and track-able online procedures, promotes government transparency and increases citizens' level of trust in their government. This has a direct impact on the government's accountability in serving its 'customers' (citizens or businesses).
- Enhancing government efficiency and increasing revenues: effective use of ICT can reduce transaction costs dramatically and streamline government functionality, resulting in more efficient and effective government.
- Overall improvement of the government-citizen relationship: better delivery of government services and information, empowered citizens, enhanced transparency, increased accountability, and higher productivity will jointly help improve the relationship between government and its citizens.

As well as e-Government improving efficiency and services, the OECD suggests that e-Government can be an important contributor to reform in a country. Globalisation, fiscal demands, social changes and higher citizen expectations have all put pressure on governments to continuously engage in reform. E-Government could play a major role in such reform, as it underpins it in many ways.<sup>52</sup> In the end, the citizen does not need to understand all the relationships and the complexity of the government structure, but wants to be able to deal with his/her government as a unified body in seamless online transactions, and ICT can enable this to occur. Moreover, e-Government can assist policy outcomes to be achieved by enabling the required information and data to be shared among governmental entities. For example, sharing information in the public sector can improve resource utilisation and enhance service delivery in major areas of government activity such as the public health care system, education and training, and environmental protection.<sup>53</sup>

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<sup>52</sup> OECD, above n 19.

<sup>53</sup> Ibid.

The OECD concludes that e-Government can help to rebuild trust between the citizens and their respective governments by:

- Engaging citizens in public policy processes;
- Promoting open and accountable government; and
- Combating or helping to prevent corruption.

Citizens' level of trust in a government can be increased by harnessing ICT to encourage citizens to be more proactive and constructive in the public domain, giving them a chance to be heard and to contribute in public debates. In view of the identified benefits, UNESCO observes that 'it makes tremendous sense for the government sector all over the world to adopt e-government' to develop the role of government in the new digital age, and to achieve the vision of e-governance.<sup>54</sup>

#### **1.5.6 Examples of the direct benefits of e-Government**

The benefits gained from e-Government initiatives around the world have been very appealing and encouraging, boosting the spread of e-Government concepts worldwide. There are numerous examples of the benefits of introducing online e-Government transactions in place of conventional ones. In Singapore, obtaining an import or export licence used to involve a wait of 15-20 days, following the completion of 21 different forms which were processed by 23 government agencies. The same request takes now about 15 seconds to process, after the filing of a single online form on the government's TradeNet portal.<sup>55</sup>

In India, as elsewhere, examinations are an important part of the education system. Every year, a huge number of academic examinations are conducted, whether on behalf of school examination boards or for admission into higher professional areas. Parallel in significance to the exams themselves is the issuing of results properly and accurately to the correct students. Until recently, it was common for parents and students to wait through long, sleepless nights for the early morning 'gazette' to get their results, or for students to stand in front of noticeboards to check their marks. But the Internet transformed the whole process to a more comfortable scenario, so that students can get their results in the comfort of their homes with a

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<sup>54</sup> UNESCO above n 2.

<sup>55</sup> Al-Kibsi, above n 32.

single click.<sup>56</sup> This innovation, introduced in 2000, has proved to be more effective in promoting web use in India than any other innovation, due to the sensitivity and high importance of examination results in the lives of millions of students and their families. It has dramatically boosted Indians' use of the World Wide Web. Also in India, a tax payment system for loaded trucks crossing interstate roads was introduced over two years in a quest to combat corruption. It resulted in a three-fold increase in tax earnings, rising from \$12 million to \$35 million. The cost of the entire electronic system to the local government was less than \$4 million, which was repaid within six months.<sup>57</sup>

In the state of Arizona in the United States, the cost of processing a vehicle registration renewal online is \$1.60, while 'in line' it would cost \$6.60. The website was developed by IBM at no cost to taxpayers, in exchange for 2% of all transactions done on-line.<sup>58</sup> This has saved the Transport Department \$2 million a year. In Chile, the government has reformed the procurement system by embracing a wholly Internet-based e-procurement system under which all the companies willing to deal with the government register once only in their respective fields of business. When a public-sector body requires the supply of an item or service from the market, a request is disseminated to all the registered firms in the related category with the necessary details and documentation. The participating companies then submit proposals; bids are assessed, and finally a deal is closed with the winning company. This process promotes transparency, fairness, and equal competition between the participants, and reduces the likelihood of corruption in the bidding process. All public sector bodies and agencies are required to register in the e-procurement system. The government initiated the process based on research studies showing that the savings achieved with the new system would reach \$200 million per year.<sup>59</sup> All transactions are transparent, corruption-free, accessible at all hours and traceable to the government employees responsible for managing them.

In China, the 'Digital Beijing' initiative was launched in 2000 with the aim of increasing the government's efficiency and promoting its responsiveness. By the end of 2005, more than 6,000 businesses were able to transact electronically with the

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<sup>56</sup> UNESCO above n 2.

<sup>57</sup> Ibid.

<sup>58</sup> Al-Kibsi, above n 32

<sup>59</sup> UNESCO, above n 2.

government to obtain their licences and submit their tax statements. The government was able to offer 32 public services to citizens and the private sector in an ongoing quest to provide most administrative services online. Then there is the example of E-park, China's first national science park, comprising prominent global IT companies such as IBM, Microsoft and HP, and 39 high-profile universities such as Beijing University. Originally, an administrative authority of 12 departments working separately controlled E-park. With the help of an integrated e-Government system, all departments are now well integrated, with one database system allowing for a streamlined flow of information between them. This has enabled the government to have one multifunctional website to serve every client within the park. Applying the latest Internet and computer technologies has greatly increased the government's levels of efficiency and transparency.<sup>60</sup>

From the experiences described, it is apparent that savings in a country's expenditure can be quite significant. This is of crucial importance in countries such as the United States, France and Germany, where 40% of government expenditure is incurred in delivery of services. Very large savings can be achieved by embracing online transactions.<sup>61</sup>

E-Government is all about reinventing the government online by making government more efficient. It eliminates the possibility of errors stemming from traditional handwritten and typewritten communications, and it makes government more effective by reducing service delivery costs by 20-25%.<sup>62</sup>

### **1.5.7 E-Government's Challenges and Impediments**

Whereas there are benefits to be achieved by implementing e-Government projects, most e-Government projects also face challenges and impediments. This research focuses on two main kinds of challenges – those relating to financial resources and those relating to adoption by the public.

#### ***Financial Resources Challenges***

E-Government projects typically require very substantial investments of financial and human resources. For a typical department, RAND estimates that the cost of automating the delivery of a service and offering it online could be as much

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<sup>60</sup> Ibid.

<sup>61</sup> Al-Kibsi, above n 32.

<sup>62</sup> Al-Kibsi, above n 32

as \$30 to \$40M.<sup>63</sup> According to the same study, the cost of an integrated government service portal with 15 services could amount to \$100M or more. A study conducted in the European Union found that, from 2004 onward, European countries had invested 11 billion Euros in e-Government projects.<sup>64</sup> Another study indicates that Italy alone invested more than 6 billion Euros in the years 2000-2006 to make its public services available online, however the take-up of these costly services did not exceed the threshold of 10% of Italy's population.<sup>65</sup>

However, the OECD asserts that governments tend not to consider the expenditure on ICT-related project as an *investment*. This has had the effect of impeding the advance towards efficient e-Government systems, as funding is mostly diverted to traditional and conventional government silos. Government organisations need to recognise ICT expenditure as an investment and develop tools to measure the return on such an investment and the benefits gained from e-Government. This can be only realised through a government-wide approach.<sup>66</sup>

In addition, e-Government projects can be risky and difficult. They require significant changes at the micro and macro levels of government, and they generally encounter resistance to change. The OECD observes that '[w]hen ICT projects go wrong, cost overruns and service delivery failures can be highly visible.'<sup>67</sup> Thus, funding discontinuity could be a vital impediment for progress in e-Government. Researchers have shown that implementing e-Government is not an easy task. Mikdashi and Salaam indicate that, globally, the success rate of e-Government projects falls between 20 and 40%.<sup>68</sup> When examining the experience of developing countries, they estimate that only 15% of e-Government projects succeed, while 35% of projects generally fail.<sup>69</sup> Atallah, on the other hand, indicates in his study that

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<sup>63</sup> Ibid.

<sup>64</sup> Osimo, above n 7

<sup>65</sup> Ibid.

<sup>66</sup> OECD, above n 19.

<sup>67</sup> Ibid.

<sup>68</sup> M Mikdashi and Y Salaam, 'The Requirements of Administrative Development for E-government' (Paper presented at the UN Economic and Social Commission for Western Asia Regional Workshop on E-government, Sana'a, Yemen, 2003).

<sup>69</sup> Ibid.

roughly 85% of public sector Information Technology projects, in developing countries, are destined to be failures.<sup>70</sup>

The financial commitment required for e-Government represents a challenge and a burden. To make such huge investments worthwhile, e-Government projects must be justifiable. This will not be the case unless and until e-Government services are in fact adopted and used and by the citizens and businesses of the nation that introduces them.

### ***Adoption Challenges***

The general public's adoption of e-Government services is another major challenge that governments throughout the world confront and must address if the benefits of e-Government are to be realised. In 2001 Swartz found, after studying e-Government projects around the world, that only 20% of people with Internet access use e-Government services.<sup>71</sup> Hung and his colleagues have described low levels of user acceptance of e-Government services as an 'endemic problem' for all e-Government parties.<sup>72</sup>

In Europe, a research study conducted by the Institute for Prospective Technological Studies of the European Commission (IPTS)<sup>73</sup> found that just fewer than 10% of EU citizens used online public services in 2007, even though almost 60% of all public services were available online at the time, including all major public services. The study concluded that 'achieving the expectations and the goals of the early visions has been more difficult than expected' and 'citizens have been slow to adopt public services made available online through significant investment and usage rates are still low'.<sup>74</sup> IPTS's findings on the low level of adoption of e-Government in Europe are illustrated in Figure 2 below.

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<sup>70</sup> S Atallah, 'E-Government — Considerations for Arab States' (2001) *Sub-Regional Resource Facility for Arab States* 14.

<sup>71</sup> Layne, above n 18.

<sup>72</sup> S Y Hung, C M Chang and T J Yu, 'Determinants of user acceptance of the e-government services: the case of online tax filing and payment system' (2006) 23(1) *Government Information Quarterly* 97.

<sup>73</sup> IPTS is one of the seven research institutes of the EU.

<sup>74</sup> Osimo, above n 7.



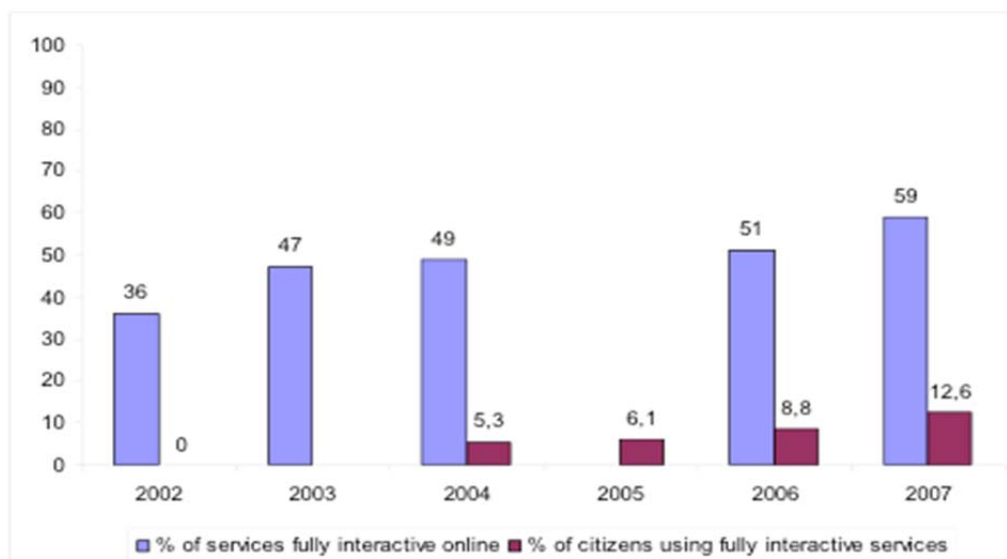


Figure 2 : Comparison of the number of public online services in Europe and the number of users accessing those services in 2008.<sup>75</sup>

In Europe, a study commissioned by the European Commission in 2012 confirms that the use of e-Government systems by citizens is stalling as the number of citizens sending completed forms to public sector administrations through online e-Government systems remains at 21% only across the EU.<sup>76</sup> The Digital Agenda for Europe report attributes this stalling to (in order of significance): the absence of a need to use online systems; security concerns; and the lack of the requisite skills.

In the Netherlands, Mofleh and Wanous refer to a study indicating a low adoption rate of less than 10% accessing e-Government. They argue that the ‘scale of this gap is expected to be much larger within developing countries’.<sup>77</sup> This is based on the fact that the supply-side-indicators (i.e. what services are available online, the usability and the quality of those services) in most developing countries are of a low standard.<sup>78</sup> In a survey of EU countries the global research and development think

<sup>75</sup> Ibid.

<sup>76</sup> European Commission, *Digital Agenda for Europe Scoreboard* <[http://ec.europa.eu/digital-agenda/sites/digital-agenda/files/KKAH12001ENN-PDFWEB\\_1.pdf](http://ec.europa.eu/digital-agenda/sites/digital-agenda/files/KKAH12001ENN-PDFWEB_1.pdf)>.

<sup>77</sup> S I Mofleh and M Wanous, 'Understanding Factors Influencing Citizens Adoption of E-government Services in the Developing World: Jordan as a Case Study' (2008) 7 *Info Comp: Journal of Computer Science* 1.

<sup>78</sup> United Nations Division of Public Economics and Public Administration and the American Society for Public Administration, 'Benchmarking e-Government: A Global Perspective' (2002). <[http://www.itpolicy.gov.il/topics\\_egov/docs/benchmarking.pdf](http://www.itpolicy.gov.il/topics_egov/docs/benchmarking.pdf)> Administration, above n ; United Nations Public Administration Network, 'United Nations Global e-Government Readiness Report

tank, RAND, found that users had a general preference for interacting through online services that did not require them to provide a high amount of personal information.<sup>79</sup>

In Taiwan, which ranked first in Brown University's e-Government Annual Ranking in 2004, the government has invested millions of dollars in deploying and promoting its online tax filing and payment system (OTFPS) since 1998. Nonetheless, uptake rates were low, reaching only 15.05% in 2003 and 21.06% in 2004.<sup>80</sup> The same study refers to similar low adoption rates in the United States for online tax filing, of 20.11% and 22.61% in 2002 and 2003 respectively.

In other parts of the world, such as the Asia-Pacific region and the Middle East, low adoption rates have also been observed.<sup>81</sup> This indicates that the issue of low rates of e-Government adoption is a global pattern, rather than a local one, limited to any particular country or region. It adds to the pressure on governments to reorganise their online strategies in order to achieve greater success in reaping the potential rewards of e-Government systems.

Carter and Belanger observe that 'the success and acceptance of e-Government initiatives ... are contingent upon citizens' willingness to adopt this innovation.' Thus, for e-Government initiatives to achieve their promised goals, for their benefits to materialise, and for investment in them to be justified, it is essential for the general public to accept and adopt them.<sup>82</sup> This point is made over and over again in the research on e-Government. Layne and Lee state: 'Though the concept of e-Government is very persuasive in increasing efficiency and effectiveness of government, services should be available to one hundred per cent of citizens for e-government initiatives to be successful.'<sup>83</sup> Lee and Lei likewise emphasise the

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2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14  
<<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

<sup>79</sup> RAND, above n 20.

<sup>80</sup> Hung, above n 72.

<sup>81</sup> Wescott, above n 7; Al-Shafi and Weerakkody, above n 7.

<sup>82</sup> L Carter and F Belanger, 'Citizen adoption of electronic government initiatives' (Paper presented at the 37th Hawaii International Conference on System Sciences, Island of Hawaii, 2004).

<sup>83</sup> Layne, above n 18.

importance of ensuring that people are willing to use e-Government services. Otherwise, they warn, ‘investments in these electronic services may be wasted.’<sup>84</sup>

The OECD indicates that the digital divide is another vital issue that could affect the take-up rate of e-Government, as citizens vary widely in their access to ICT and the Internet. In general, the most disadvantaged citizens with the lowest rate of Internet access are also the neediest people who interact with government. So, if governments do not act to reduce the digital divide, a great proportion of citizens will miss out on the benefits of e-government.<sup>85</sup>

Considering their public-service obligations, governments are not in a position to discontinue their traditional methods of service and information delivery immediately upon making the service available online.<sup>86</sup> Governments must seek better ways of introducing ‘citizen-centred’ transactions and develop more useful, user-friendly services than the traditional ones.<sup>87</sup>

#### **1.5.8 E-government and the people: the lost link**

Many scholars have drawn attention to the gap in the research when it comes to studying e-Government adoption.<sup>88</sup> They have called for greater attention to be given to exploring and investigating this aspect of e-Government research, pointing out that most of the research on e-Government has focused on the supply side rather than on the demand side.<sup>89</sup>

Hung et al. attribute the insufficiency of research on the adoption of e-Government to two major factors. The first is that most of the earlier research focused on information systems adoption studies, on business, and on for-profit organisations, rather than on government or public organisations. The second is that even though there are numerous studies on improving e-Government services, e-Government is more than an online service delivery system. Emphasising that behavioural issues are more important than technological ones, Hung et al

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<sup>84</sup> C B P Lee and U Lei, 'Adoption of e-government services in Macao' (Paper presented at the 1st international conference on Theory and practice of electronic governance, Macao, 2007).

<sup>85</sup> OECD, above n 19.

<sup>86</sup> L L Tung and O Rieck, 'Adoption of electronic government services among business organizations in Singapore' (2005) 14 *Journal of strategic information systems* 417

<sup>87</sup> Carter, above n 82.

<sup>88</sup> Tung and Rieck point to the scarcity of research on e-Government adoption. See Tung, above n 86.

<sup>89</sup> Choudrie and Dwivedi confirm that “little attention has been given to the demand or citizens’ perspective.” See Choudrie, above n 22.

recommend that further studies are needed if the effectiveness of e-Government services is to be improved.<sup>90</sup>

Carter and Belanger note that whereas many studies have investigated user adoption in e-commerce, few have done so for e-Government. They refer to a survey of chief administrative officers (CAOs) at different government agencies conducted by the International City/County Management Association. It found that 90.5% of agencies with a website presence had not conducted any kind of survey to identify what online services their citizens and businesses actually want to be able to access on the web. They concluded their study by asserting that it is imperative for government agencies to enhance the citizens' adoption of on-line services.<sup>91</sup>

RAND Europe's report on benchmarking e-Government in Europe and the United States confirms the increasing focus of e-Government studies on the supply side. It calls for further research on the demand side of e-Government to explore the perceptions and attitudes of e-Government's end-users. Existing studies, it says, 'concentrate on the supply-side by focusing on the availability and level of sophistication of online services and usage.'<sup>92</sup>

In a 2008 study, Mofleh and Wanous observed that it is surprising how 'governments tend to design and launch online services based on their understanding of what citizens need...without actually measuring what increases citizens' willingness to adopt web-enabled services.' They added that there is a general lack of systematic demand-side studies, leaving governments with almost no information in this regard.<sup>93</sup> Mofleh and Wanous confirm in their study that 'governments tend to supply people with what governments think is important while neglecting people's actual needs', and they refer to more researchers suggesting that governments initiate an online presence based on the assumption that people are demanding e-Government. They comment that 'this however is creating a mismatch between the demand and the supply of e-government.'<sup>94</sup>

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<sup>90</sup> Hung, above n 72.

<sup>91</sup> Carter, above n 82.

<sup>92</sup> RAND, above n 21.

<sup>93</sup> Mofleh, above n 77

<sup>94</sup> Ibid.

### 1.5.9 Government and the real need to change to an open relationship with the people ('Open Government')

The OECD identifies three main criteria against which the success of any e-Government initiative may be assessed, namely:

- Better policy outcomes;
- Higher-quality services; and
- Greater citizen engagement.

The OECD posits that e-Government relates more to the opening up of governments than to the automation of their services. It recommends that governments should enhance their focus on customers and build up relationships with them in order to be and remain responsive.<sup>95</sup> RAND makes the point that e-Government is not simply about shifting existing government transactions to the electronic environment. Rather, e-Government requires a rethinking of the whole range of current government processes, where some could be improved, cancelled, or even replaced with newer processes as required.<sup>96</sup>

According to the RAND survey, the less personal information any online service requires from users, the more popular and usable it is. Likewise, online services that require more personal information attract lower levels of usage. The RAND report demonstrates that citizens' willingness to use Internet-based government services in preference to the traditional means of communication depends on only a minimal amount of personal information being required to obtain that service. This leads RAND to conclude that 'use of a given government service appears to be inversely matched to the amount of personal information required by the service.'<sup>97</sup> The graph in Figure 3 below depicts this finding, showing the variation in usability levels of Internet-based and traditional communication methods according to the amount of personal information required from users.

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<sup>95</sup> OECD, above n 19.

<sup>96</sup> RAND, above n 20.

<sup>97</sup> RAND, above n 21.

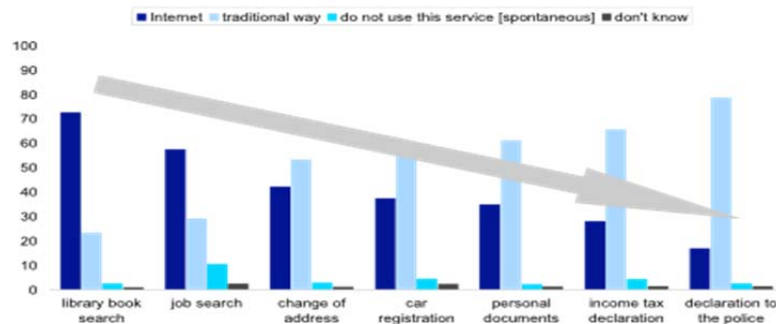


Figure 3 : Degree of popularity of various online services.<sup>98</sup>

Another notable indication drawn from the RAND report was that e-Government stakeholders' level of awareness of the online services available to them was not up to the required standard, as 'citizens were not always aware of which government services were available online'. This lack of awareness contributes to widening the mismatch between the government and the people, the two main parties to e-Government. It puts another barrier in the way of governments (or online service providers) seeking to enhance and increase the adoption of e-Government.

#### 1.5.10 User acceptance: the pivotal foundation for e-government success

User acceptance of any form of information technology is considered a vital condition for its successful implementation.<sup>99</sup> User acceptance plays a major role in the success of any technology, as it indicates the level of satisfaction with the new service or innovation.

Warkentin et al. put it clearly when they state that 'the adoption of e-government processes is a critical component in the creation of an efficient and responsive New Public Management.'<sup>100</sup> They assert that 'citizen adoption of online government services has not been met yet.'<sup>101</sup> Accenture, on the other hand, in an international e-Government study in 2005, found that governments in general were

<sup>98</sup> Ibid.

<sup>99</sup> J Pinto and S Mantel, 'The causes of project failure' (1990) 37(4) *Engineering Management, IEEE Transactions* 269.

<sup>100</sup> M Warkentin et al, 'Encouraging citizen adoption of e-government by building trust' (2002) 12(3) *Electronic Markets* 157.

<sup>101</sup> Ibid.

making huge service investments without a clear vision of the outcomes they might achieve.<sup>102</sup>

The OECD asserts that assessing the demand side of e-Government remains a major weakness in all its members' e-Government systems. It emphasises that service provision is only a part of the potential e-Government, and that 'the use of ICT to strengthen the involvement of citizens and businesses in public decision-making must progress at the same time.' The OECD further highlights the importance of assessing that demand and incorporating user feedback, as e-Government services become more complicated and more expensive.<sup>103</sup>

It comes as no surprise that Accenture has found – after carrying out research in Europe, North America, and Asia, surveying 8,600 citizens, and interviewing 40 senior government officials in 21 countries – that citizens are disappointed with their governments' promises to improve the structure of their service delivery.<sup>104</sup> To further change their perceptions, Accenture recommends that governments should 'move the customer services focus beyond the quality of the service transaction toward a relationship with citizens that fosters deeper trust [and] improves the relevance and transparency of government decision-making'.<sup>105</sup>

Governments paying more attention to the demand side of e-Government have succeeded in gaining huge benefits, leading to an effective and efficient e-Government system. Accenture announced in 2005 that Canada was the most e-Government-enabled country for the fourth year in a row.<sup>106</sup> Reddick attributes this mostly to Canada's regular surveys of citizens and businesses' attitude and needs.<sup>107</sup>

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<sup>102</sup> Accenture, *Leadership in Customer Service Report: New Expectations, New Experiences* <[http://www.accenture.com/Global/Services/By\\_Industry/Government\\_and\\_Public\\_Service/PS\\_Global/R\\_and\\_I/LeadershipExperiences.htm](http://www.accenture.com/Global/Services/By_Industry/Government_and_Public_Service/PS_Global/R_and_I/LeadershipExperiences.htm)>.

<sup>103</sup> OECD, above n 19.

<sup>104</sup> Accenture, *Leadership in Customer Service Report: Creating Shared Responsibility for Better Outcomes* <http://www.accenture.com/NR/rdonlyres/14E4340B-4D2B-4147-9291-8FA94D8218E7/0/LCS08Report012109.pdf>.

<sup>105</sup> Ibid.

<sup>106</sup> Accenture, *eGovernment report: High Performance, Maximum Value* <[http://www.accenture.com/Global/Research\\_and\\_Insights/By\\_Industry/Government\\_and\\_Public\\_Service/HighValue.htm](http://www.accenture.com/Global/Research_and_Insights/By_Industry/Government_and_Public_Service/HighValue.htm)>.

<sup>107</sup> C G Reddick, 'Citizen interaction with e-government: From the streets to servers?' (2005) 22(1) *Government Information Quarterly* 38.

## 1.6 OPEN GOVERNMENT AND OPEN GOVERNMENT DATA (OGD)

The origins of Open Government and Open Government Data (OGD) arguably lie in the Access to knowledge (A2K) movement. A2K is a global movement that has emerged in recent years with a view of achieving progress towards a more informed and educated society. A2K aims to build a unified public access to all products of human culture and learning.<sup>108</sup> According to Jeremy Malcolm, ‘openness’ is the unifying concept that underpins much of the A2K movement, as evidenced by open source software, open access, open standards, open content, and open data.<sup>109</sup>

As a result of the availability of new, intuitive communication and collaboration technologies (represented by Web 2.0), as well as the need to develop and enhance government use of ICT, a paradigm shift has occurred in the last few years with the emergence of ‘Open Government Data’.<sup>110</sup> The term implies a cultural, organisational, and attitudinal change in public servants, as well as in the relationship between governments and citizens. The World Wide Web Foundation sums up the paradigm shift with the following formula:

Open Government = Transparency + Efficiency + Participation + Accountability.<sup>111</sup>

Open Government Data (OGD) is the requirement for public sector organisations and bodies to provide their own raw data (in a machine-readable and open-standard format) to citizens. This represents an important pillar in Open Government strategies. The public can use these data and create new applications around them. The data can also be used by Non-Government Organisations (NGOs), developers and activists, who reproduce it in the form of newer services to citizens and organisations.<sup>112</sup>

The World Wide Web Foundation has compiled a list of the benefits flowing from OGD. These are:

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<sup>108</sup> Jeremy Malcolm, *Multi-stakeholder governance and the Internet Governance Forum* (Consumers International, 2008); Frederick Noronha and Jeremy Malcolm, *Access to Knowledge, a guide for everyone* (2010).

<sup>109</sup> Ibid.

<sup>110</sup> World Wide Web Foundation, *Open Government Data*  
<<http://www.webfoundation.org/projects/ogd/>>.

<sup>111</sup> Ibid.

<sup>112</sup> Ibid.



- i. Increased government transparency.
- ii. Increased citizen participation through the ongoing introduction of new citizen-centric services.
- iii. New synergies between the government and civil society organisations.
- iv. New business and work opportunities for application developers.
- v. The introduction of new, innovative ways of exploiting public data, which may not have occurred to those who created it.

Opening up government data and information is fundamental to advancing and further developing the knowledge-based economy. Making government data and information available online provides an incentive to individuals and organisations to reuse it to create innovative solutions to the challenges and problems faced by the community.

Both governments and private sector organisations are increasingly realising that useful data can boost economic growth. A study by the McKinsey Global Institute estimated that Open Data could help to unlock \$3 trillion to \$5 trillion on an annual basis as an added economic value across seven key sectors, namely, education, transportation, consumer products, electricity, oil and gas, health care and consumer finance.<sup>113</sup> Another study, by the European Commission, indicates that suggests that Open Government Data can increase European business activity by up to 40 EUR billion annually.<sup>114</sup>

Improving transparency and efficiency in overall government performance were the key aims articulated by the first e-Government initiatives in the mid-1990s. The nature of current Open Government initiatives developing worldwide suggests that these aims remain central and are very likely to be realised.

### **1.6.1 G8 Open Data Charter**

The shift towards openness and the growing importance of open data worldwide is evident in the release by the G8 of the *Open Data Charter* in June

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<sup>113</sup> McKinsey Center for Government, *Open data: Unlocking innovation and performance with liquid information* <[http://www.mckinsey.com/insights/business\\_technology/open\\_data\\_unlocking\\_innovation\\_and\\_performance\\_with\\_liquid\\_information](http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information)>.

<sup>114</sup> European Commission, Digital Agenda for Europe Scoreboard <[http://ec.europa.eu/digital-agenda/sites/digital-agenda/files/KKAH1200ENN-PDFWEB\\_1.pdf](http://ec.europa.eu/digital-agenda/sites/digital-agenda/files/KKAH1200ENN-PDFWEB_1.pdf)>.

2013. (The G8 is a forum for the governments of eight of the world's largest national economies.) The *Open Data Charter* explicitly affirms that Open Data must be available to all, and usable by both machines and humans. It recognises the central role that Open Data could play in promoting growth through innovation in data-driven products, and services.<sup>115</sup> The *Open Data Charter* sets out five main principles:

- ✚ Open Data by default
- ✚ Quality and quantity
- ✚ Useable by all
- ✚ Releasing data for improved governance
- ✚ Releasing data for innovation

The Charter asserts that the world is changing very rapidly, with global developments facilitated by the latest social media technologies and fuelled by information. Thus, free access to data by individuals and organisations will improve the flow of information and spur economic growth. The Charter explicitly confirms that while governments collect a wide range of information, however 'they do not always share these data in ways that are easily discoverable, useable, or understandable by the public'.<sup>116</sup> It regards that to be a missed opportunity, and it further asserts that 'we have arrived a tipping point', with a new era in which individuals can use Open Data to create a better world for all.

The G8 recognizes the benefits of Open Data can and should be enjoyed by citizens of all nations. The G8 countries have expressed their determination to implement the principles of Open Data in accordance with the technical best practices and timeframes planned in their national action plans.

### **1.6.2 Web 2.0's Effect on e-government**

Pascu has made the point that Web 2.0 provides a new perspective on the importance of 'information' and 'communication' in any ICT-based society.<sup>117</sup>

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<sup>115</sup> The Open Knowledge Foundation, *Open Data Charter released at the G8 Summit* <<http://opensource.com/government/13/7/open-data-charter-g8>>.

<sup>116</sup> Ibid.

<sup>117</sup> C. Pascu et al, 'The potential disruptive impact of Internet 2 based technologies' (2007) 12(3) *First Monday*.

Osimo explains that Web 2.0 is ‘able to build public value for many people out of the proactive engagement of a few’, and that there is a ‘growing scientific consensus’ that when Public Sector Information (PSI) is made freely available for reuse, it can be ‘not only a business opportunity but also a source of public value.’<sup>118</sup>

According to Osimo, the key feature of Web 2.0 is its ability to reuse data and the possibility of mashing it up, and its capacity to enable data to be reused and mashed up. RSS feeds, for example, enable the updated content of a site to be published on other websites. Application Programming Interfaces (APIs) support the re-use of data, by enabling, for instance, the geographical reference with other free tools (Google Maps). A study conducted by IPTS found that most Web 2.0 projects are built on the reuse of available public data.<sup>119</sup> Sites such as Theyworkforyou.com, Petitions-UK, and Maplight.org, share this feature of reusing public data. Some examples, of sites that use Web 2.0 technologies to enable reuse of public data are shown in Figure 9:

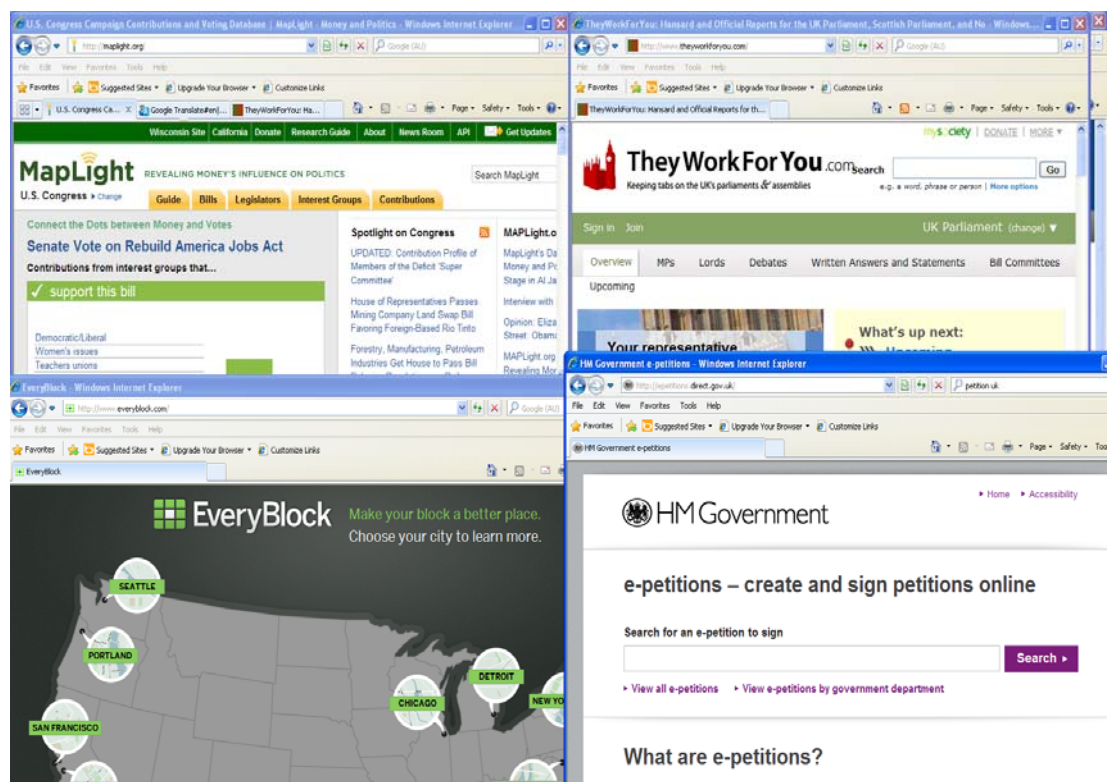


Figure 4: Examples of Web 2.0 technologies reusing public data

<sup>118</sup> Osimo, above n 178.

<sup>119</sup> Ibid.

All of these sites use public data to enhance government transparency, spur public participation, or make the daily life of members of the public easier.<sup>120</sup> As Osimo comments, ‘they re-organize the information in a way that is more USABLE by citizens.’

IPTS research based on interviewing with many Web 2.0 experts that their main recommendation was to make public data available for reuse. They identified the main obstacle or impediment to the implementation of more Web innovative 2.0 projects as being the lack of availability of more public data.<sup>121</sup> The interviewees identified the main impediments to the future growth of Web 2.0 projects as follows<sup>122</sup>:

- ❖ Data is not publicly available.
- ❖ Data is not freely usable, as it is subject to licensing.
- ❖ Data is not available in a machine-readable format, which requires human intervention to make the data reusable.

## **1.7 CONTEXT OF THE RESEARCH**

E-Government involves two main parties, as outlined in Figure 1. Those parties are as follows:

- The supply side, that is, the online-service provider (a government department or public sector organisation); and
- The demand side (citizens, businesses, and any other external bodies), which represents the final end-user of the online service and the main stakeholders of the services provided by the government.

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<sup>120</sup> Osimo, above n 178.

<sup>121</sup> Ibid.

<sup>122</sup> Ibid.

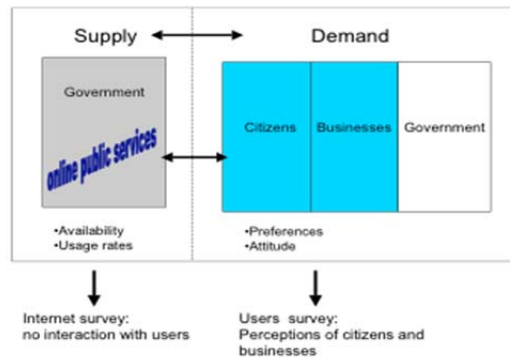


Figure 5 : Supply versus demand sides of e-Government<sup>123</sup>

Increasing the adoption of e-Government by the ‘demand’ side is a vital part of today’s ongoing research. As demonstrated above, there is a ‘general lack of research on citizens’ e-Government demand’.<sup>124</sup> Moreover, ‘the focus of the academic literature on e-government up to date has rather focused on the supply side of e-Government’.<sup>125</sup> Most of this previous research has focused on impediments to e-Government initiatives, models of e-Government growth, implementations of e-Government services, and the challenges they face.<sup>126</sup>

This research will add to the sparse body of knowledge regarding the adoption of e-Government. According to the research so far ‘it is not clear that citizens will embrace the use of such services.’<sup>127</sup> The thesis will focus on new approaches by which pioneer “Open Government” countries have shifted their online systems from a simple automation of government services to an enhanced online relationship with their citizens. This has enabled a more two-way relationship built upon information sharing and collaboration, rather than one that is dictated by the service-provider.

## 1.8 SIGNIFICANCE OF THE RESEARCH

As an original contribution, this research strives to understand the priorities that governments should explore to enhance the use of e-Government services in the context of developing countries and, specifically, Qatar in the context of Open

<sup>123</sup> RAND, above n 12.

<sup>124</sup> Mofleh and Wanous, above n 77.

<sup>125</sup> Tung and Rieck, above n 86

<sup>126</sup> Ibid.

<sup>127</sup> Carter and Belanger, above n 82.

Government. According to a 2008 industry research report by Gartner,<sup>128</sup> demographics and a lack of legacy infrastructure make developing countries more 'ripe to benefit from Web 2.0 than many believe' in accelerating their e-Government projects. According to the same study, e-Government initiatives have rarely been citizen-centric in developed countries, and this has resulted in low adoption rates in those countries.<sup>129</sup> While the rate of adoption of e-Government is an ongoing challenge in the developed world, it is expected that the scale of the problem will be much larger in developing countries.<sup>130</sup> Thus, Open Government Data plays an important role in transforming the existing supply-driven e-Government initiatives to more demand-driven initiatives, and in building and strengthening the government-citizen relationship so that it becomes more collaborative and participatory.

Denise Lievesly, president of the International Statistical Institute, in a keynote address to the European Commission's Inspire conference in 2009, pointed to the importance of developing a strategy to access and share data in public sector agencies and government organisations.<sup>131</sup> Alma Swan, a leading open access proponent and advocate of open government, has emphasised the importance of establishing a clear policy if the objective of openness and open access to data is to be reached.<sup>132</sup>

In Australia, Dr Terry Cutler has emphasized the importance of paying greater attention to the huge gains that could be reaped, and the potential wealth of knowledge that would be available if information barriers are removed. He further asserts that lowering the barriers to data and information flows will contribute to stimulating innovation and creativity. He asserts that 'data and information is the currency of creativity and innovation', and that 'information is what energises our national innovation systems'.<sup>133</sup>

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<sup>128</sup> A Di Maio, 'Web 2.0 Can Help Accelerate E-Government in Developing Countries' (G00159830, Gartner Inc., 2008).

<sup>129</sup> A Di Maio, 'The e-Government Hype Cycle Meets Web 2.0' (2007) *Gartner Inc.*

<sup>130</sup> Mofleh and Wanous, above n 77.

<sup>131</sup> Haswira Nor Mohamad Hashim, *Enabling Open Access to and Re-use of Publicly Funded Research Data in Malaysian Public Universities: A Legal and Policy Analysis* (PhD Thesis, QUT, 2012).

<sup>132</sup> A Swan et al, 'Developing a model for e-prints and open access journal content in UK further and higher education' (2005) 18(1) *Learned publishing* 25.

<sup>133</sup> Terry Cutler, 'Innovation and open access to public sector information' (2008) ; Terry Cutler, 'Venturous Australia: building strength in innovation [Cutler review]' (2008).

Professor Anne Fitzgerald et al., through their Open Access to Knowledge Law project (OAK Law), supported open access to and re-use of the available publicly funded research outputs. In OAK Law's 2006 report, 'Creating a Legal Framework for Copyright Management of Open Access within the Australian Academic and Research Sector', the authors called upon Australian research and funding institutions to consider their commitment to open access and to develop clear open access policies.<sup>134</sup> Their report confirms that open access systems cannot be established simply by default. Rather, deliberate policy construction and active management are necessary to achieve workable and sustainable open access.<sup>135</sup> They also argue that for open access to be effectively implemented, it must be supported by national policies and laws. Further, to achieve seamless access to public data, it is not only vital to adopt or consider technical standards and practices, but attention must also be given to developing a legal framework that can facilitate access to and re-use of public data.<sup>136</sup>

This research aims to fill the gap in the existing body of knowledge in the context of developing countries, and to identify ways of harnessing Web 2.0 technologies to open up government information and better utilise e-Government services. It makes recommendations for Qatar, as a developing country, regarding steps that may be taken to enhance the benefits that can be achieved through Open Government and Web 2.0 technologies. Since the aim of this thesis is to promote and increase the openness of government, the real significance of the research will lie in devising a road map for developing countries to achieve an open and inclusive government.

## **1.9 QATAR'S E-GOVERNMENT**

Qatar is a small developing country located in the middle part of the Persian Gulf in the Middle East. Qatar established its e-Government initiative in 2000 with the ultimate goal of fully integrated paperless government. Today, Qatar is one of the leading countries in its region in terms of e-Government and transparency. As in

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<sup>134</sup> Brian Fitzgerald et al, *Creating a legal framework for copyright management of open access within the Australian academic and research sector* (Sydney University Press, 2008).

<sup>135</sup> Hashim, above n 124.

<sup>136</sup> Ibid.

other countries, however, many factors mean that the general public adoption of online services in Qatar is still progressing.

Qatar is chosen as a case-study country, representing developing countries, because of the following factors:

Qatar's e-Government project has been recognised as best practice in the West Asia region,<sup>137</sup> and the United Nations Global e-Government readiness report has ranked Qatar's e-Government as number 53 in the world.<sup>138</sup> Moreover, Qatar is considered to be the least corrupt country in the West Asia area. Throughout the Asian continent, Qatar is ranked fourth after Singapore, Hong Kong, and Japan. Worldwide, Qatar is ranked 22<sup>nd</sup> in Transparency International's global corruption index.<sup>139</sup>

Unlike many other countries in the developed world (e.g. the United States, the United Kingdom, and Australia) and some in the developing world, Qatar has not yet introduced freedom of information laws. The absence of such laws means that Qatar has not yet recognised an open public right to access and re-use publicly funded government information. That is, the right of access to official information is still lacking.

Open Government has proved its capability as a key promoter of public collaboration, especially through public participation in OGD initiatives worldwide. The aim of this thesis is to explore possible Open Government approaches in the light of latest ICT contributions in the government sector. Specifically, it aims to explore the capabilities of OGD to increase the adoption of e-Government among the subjects of Qatar by opening up government, making it more transparent and available for public scrutiny. Given that the demand for open access and open government is extending globally, the recommendations developed for Qatar in this thesis could be applied to other countries and public organisations. This is because countries and public sector organisations that use ICTs generally do so with the

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<sup>137</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

<sup>138</sup> Ibid.

<sup>139</sup> Transparency International, *Corruption Perceptions Index 2012* <<http://www.transparency.org/cpi2012/results>>.



common aim of creating inclusive, collaborative societies through enabling open access and re-use of publicly available information and data.

### **1.10 RESEARCH PROBLEM**

The acceptance and usability of large-scale and high-value e-Government online services must be the main goal and focus of public-sector organisations, as those services are basically ‘contingent upon citizens’ willingness to adopt’.<sup>140</sup> Using ICTs to open up government and build more collaborative citizen-government relationships will significantly improve adoption levels. As in many other developing countries, Qatar’s e-government initiative suffers from low adoption and limited usability.

The United Nations’ 2012 e-Government survey confirms that the level of e-Government usage in many developing countries generally remains low. The survey explicitly points to the Arabian Gulf countries of Qatar, Saudi Arabia and Bahrain, and countries such as Nigeria, Pakistan, and Bangladesh).<sup>141</sup> Al-Shafi and Weerakody found, after surveying more than 1500 citizens, that despite the superior ICT infrastructure, the levels of e-Government usage remained low and much work needed to be done to meet the citizens’ expectations for e-Government. They recommended that future efforts be focussed on case-study interviews with the government officials and project managers responsible for the Qatari e-Government initiative to better understand the government’s perspective and to identify the gaps between the citizens’ expectations and government.

It is hoped on the basis of this current study, that e-Government in Qatar could be enhanced and further developed by implementing the basis of the new phase of Open Government Data in the country. Thus, the principal research question addressed by this thesis is:

**How could Open Government Data (OGD) concepts and practices be introduced and implemented in the State of Qatar in order to achieve more transparent, effective and accountable government?**

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<sup>140</sup> Carter and Belanger, above n 74.

<sup>141</sup> United Nations Public Administration Network, 'E-Government Survey 2012: E-Government for the People' (2012) ST/ESA/PAS/SER.E/150  
<<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf>>.

In addressing this primary question, the following subsidiary questions have been considered:

- **What are the benefits of Open Government Data (OGD)?**
- **What is the current status of OGD in Qatar?**
- **What are the key driving forces for opening up government in the State of Qatar?**
- **What approach has Qatar followed to initiate and manage its OGD initiative?**
- **What are the key-challenges facing the OGD initiative in the State of Qatar? And what are their plans to overcome them?**
- **How is OGD perceived in light of other IT priorities and practices?**
- **What strategies will Qatari authorities adopt to sustain and enrich OGD practices in the future?**

### **1.11 METHOD AND RESEARCH PLAN**

The research methodology adopted in this thesis is qualitative, rather than quantitative. Although the qualitative approach is regarded as less rigorous, it is appropriate for a research project such as this because of its flexibility and depth,<sup>142</sup> and because it provides greater scope for a detailed analysis of Open Government initiatives. The methodology of the thesis is designed to answer all the research questions using both digital and non-digital libraries to collect the relevant information. When the research questions require, a social science perspective is included. Information is also drawn from the social sciences in the form of academic publications such as textbooks, journals, and reports, as well as non-academic publications such as newspaper reports, blogs, and various websites.<sup>143</sup>

The research develops recommendations for developing countries and, in particular, the State of Qatar, for better and more transparent government. These recommendations were developed through two main research stages:

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<sup>142</sup> P Cane and H M Kritzer, *The Oxford handbook of empirical legal research* (Oxford University Press, USA, 2010).

<sup>143</sup> S B Coutin, 'Qualitative Research in Law and Social Sciences' (2012) *Scottish Journal of Arts, Social Sciences* 50.

- ✚ The first phase of this study initially involved a literature review to investigate the benefits to be gained to the society in particular, and to the country in general if Openness is embraced. This was done by exploring various theories such as the Social Justice theory, Human Rights theory, Economic theory, Innovation theory, and Public Good theory. Later, a literature review was conducted on OGD trends and practices in the developed world. An Open Government Data Success Model (OGDSM) was formulated, based on OGD best practices in the United Kingdom and the United States, which have led the way and are the most OGD-enabled countries worldwide.
- ✚ The second phase of the research was split into two parts. In the first part, the research utilised the Open Government Data Success Model (OGDSM) to analyse Qatar's existing Open Government practices. The OGDSM was applied to examine the current status of OGD in Qatar in comparison to the position in the leading developed countries, and to identify weaknesses and challenges specific to Qatar. In the second part of this phase, the research involved conducting a survey to gather more detailed and up-to-date information about the OGD position in Qatar. This involved the following tasks:
  - Identifying the government officials in charge of OGD in Qatar, and contacting them by phone, email and direct visits.
  - Conducting face-to-face interviews with those government officials, to further investigate and obtain information in response to the research questions set out in section 1.10 of this thesis.
  - Carrying out follow-up email interviews with the government officials to collect feedback from them on the research questions.
  - Investigation, assessment and evaluation of Qatar's current OGD portal.

Material collected from the interviews was assessed and analysed to understand how ICTs are being used to streamline interaction between government and its constituents, and how the government of Qatar is opening up its information to the public. In this second phase, individual interviews were conducted with the aim of identifying the main success/failure indicators for OGD implementation. These indicators, along with the findings of the first phase, were used to create a checklist of elements to determine the most appropriate recommendations for OGD implementation in Qatar.

The following diagram depicts the methodology used in conducting the research study:

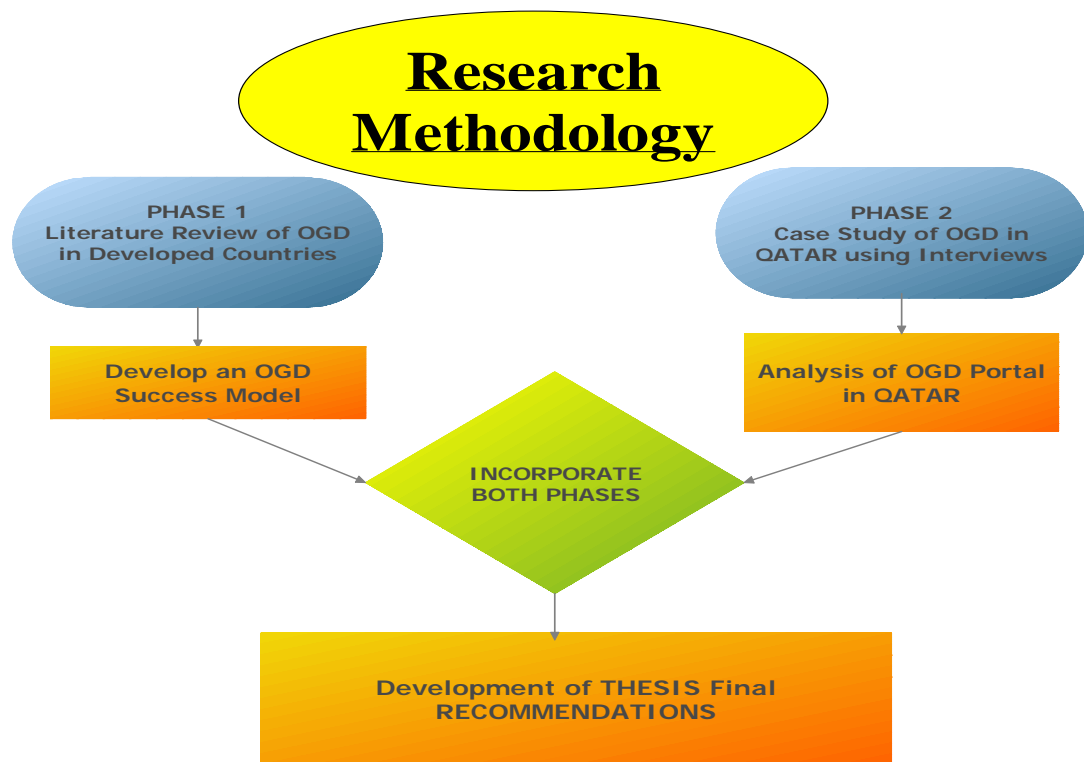


Figure 6: The Research Methodology implemented in this Thesis

By incorporating the two phases described above, the research concludes with recommendations designed to be applied and implemented Qatar with the objective of creating a better and more effective Open Government experience. The analysis applied both a positive and a normative analytical approach.<sup>144</sup> In the positive approach, the question asked was: ‘What are governments currently doing to open up

<sup>144</sup> B Bix, *Jurisprudence: theory and context* (Sweet & Maxwell, 1996).

their internal wealth of data and information?’ The positive approach explored the current open government status and analysed it critically. The normative approach asked the question: ‘What *should* governments do to open up their data and information?’ The normative approach is important, since it implies analysis of both the primary and the secondary materials collected to undertake this research.

## 1.12 THESIS OUTLINE

As a doctoral dissertation, this thesis adopts the traditional approach of structuring its chapters in the ‘monograph format’.<sup>145</sup> The thesis has six chapters, as follows:

Chapter 1: This chapter introduces the background of e-Government, clarifies its definitions and concepts, explains its history, illustrates its goals, and explains its different challenges. This chapter outlines the aim of the research and the objective of the thesis, sets out the principal and subsidiary research questions and describes the methodology used to address the research questions.

Chapter 2: This chapter sheds light on the challenges faced in introducing an Open Government system or strategy. It examines the factors that play a major role in the introduction of open government. These factors spur new ways of harnessing ICT and the latest developments in Web 2.0 to open up governments and build a relationship between the government and its citizens. This chapter also defines Web 2.0, illustrates its characteristics, explains its applications and technologies, and further discusses its effect on e-Government. Moreover, this chapter focuses on the importance of transparency and the need for more openness in government.

Chapter 3: This chapter addresses the first subsidiary question of the research: What are the benefits of Open Government Data (OGD)? This chapter investigates the benefits of opening up governments to their societies and to their countries. It examines and analyses five theories that underline benefits to be gained. Discussion of possible benefits is also presented and analyzed from the perspective of each of these theories in order to provide a strong ground for achieving the ultimate objective, to open up government and enable accessibility of government information.

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<sup>145</sup> QUT, *SUMMARY of THESIS GUIDELINES*  
<[http://cms.qut.edu.au/\\_\\_data/assets/pdf\\_file/0014/7232/Summary-of-Thesis-Guidelines-2012.pdf](http://cms.qut.edu.au/__data/assets/pdf_file/0014/7232/Summary-of-Thesis-Guidelines-2012.pdf)>.

Chapter 4: This chapter discusses and examines various Open Government initiatives around the world, and specifically in developed countries, which have led the way, notably the UK, and the US. The investigation is not limited to Open Government, but also considers the implementations of various Web 2.0 applications and technologies to maximise the benefits of the available public data for the common good. This chapter introduces the Open Government Data Success Model (OGDSM), which has been developed on the basis of lessons learned from the experience of Open Government in the United Kingdom, and the United States.

Chapter 5: This chapter examines Open Government initiatives the State of Qatar, as an example of developing countries, to further explore its existing experiences with regards to Open Government. This will be based on a thorough analysis of the existing innovative ‘Open Government’ initiatives in Qatar, in order to understand the implications and the potential of implementing a fully-fledged Open Government Data system in Qatar. Information obtained from interviews with the Qatari government officials responsible for Qatar’s current OGD initiative is discussed and the OGDSM is applied in the context of Qatar.

Chapter 6: This chapter draws conclusions and develops recommendations on how Qatar, as a developing country, can enhance the benefits that can be achieved through Open Government Data in the era of online government, and to realise the real goals of e-Government. This will be done by incorporating the two phases of research implemented in Chapters 4 and 5 of this thesis. This research aims to fill the gap in the existing body of knowledge in the context of developing countries, and to identify different ways of harnessing ICT technologies to open up government information and better utilise e-Government services.



# Chapter 2: The Shift towards Open Government

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## 2.1 THE OPEN ACCESS MOVEMENT

Openness in general and open access to data, knowledge and information has gained increasing support in the last twenty years. Open Access (OA) is the term coined to represent the removal of barriers to research.<sup>146</sup> The proponents of Open Access regard it as a paradigm shift in the way producers of knowledge and data share their data with the public in the current information age.<sup>147</sup> Open Access is seen as an innovative way of overcoming the technological barriers that traditionally impede the sharing of data and information by keeping public data in isolated silos, away from the people.<sup>148</sup>

Open Access performs a balancing act, both removing the barriers that may hinder the collaboration process, and at the same time maintaining and respecting intellectual property (IP) rights belonging to the creator of the data. Open Access ensures the flow of the information and innovation, without detracting from the individual's proprietary rights.<sup>149</sup> Open Access does not involve the abandonment of the IP rights of data and information producers. Rather, Open Access guarantees, preserves, and recognises the proprietary rights of the original creators of the data. A leading Open Access advocate, Peter Suber, emphasises that Open Access has to be compatible with intellectual property and copyright laws.<sup>150</sup> Brian Fitzgerald et al confirm that Open Access does not seek to abolish copyright; to the contrary, it preserves the ethical and moral rights of the data originators, while releasing that data to the public under open content licensing.<sup>151</sup> Suber emphasizes that open access has to be compatible with the intellectual property and copyright laws.<sup>152</sup> Anne Fitzgerald et al explain that there is no contradiction between opening up data for

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<sup>146</sup> P. Suber, 'Open access overview' (2009) 1(1) *Exploring Open Access: A Practice Journal* 14

<sup>147</sup> A. Swan, 'The culture of Open Access: researchers' views and responses' (2006) ; A. Swan, 'Open access and the progress of science' (2007) 95(3) *American Scientist* 197.

<sup>148</sup> J. Willinsky, 'The access principle: The case for open access to research and scholarship' (2006)

<sup>149</sup> Hashim, above n 124.

<sup>150</sup> Suber, above n 146.

<sup>151</sup> B.F. Fitzgerald and G. Bassett, *Legal issues relating to free and open source software* (QUT, 2004)

<sup>152</sup> Suber, above n 146.



public access and recognition of the producer's intellectual property rights over that data. Although the objective of enabling Open Access is to provide accessibility for the public to use and re-use public data, Open Access does not necessarily extinguish any intellectual property rights.<sup>153</sup>

Open Access is a part of the broader 'access to knowledge' movement (A2K), which supports the fair distribution and dissemination of scientific, intellectual, educational, administrative, and innovative information through ICT with permissive licences from the original information producers or data owners.<sup>154</sup> ICT has provided a great capacity and potential for saving, storing, and sharing knowledge and information online, and this capacity is being harnessed by Open Access movement to facilitate collaborative knowledge sharing.<sup>155</sup> The latest Internet advances have provided data and information providers with the digital technology tools necessary for them to gain both freedom and autonomy, whilst still being able to share their works with the outside world.<sup>156</sup> Open Access principles have been stated in documents such as the 2003 Berlin Declaration on Open Access to Knowledge in the Science and Humanities. This declaration supported open access to raw data, metadata, scientific research results, source materials, and other graphical and scholarly multimedia materials.<sup>157</sup> The 2004 OECD Ministerial Declaration on Access to Research Data from Public Funding defines Open Access as open international access to digital data resources that can be used in different ways, depending on national policies and practices.<sup>158</sup>

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<sup>153</sup> A.M. Fitzgerald, B.F. Fitzgerald and N. Hooper, 'Enabling open access to public sector information with Creative Commons Licences: the Australian experience' (2010) *Access to Public Sector Information: Law, Technology & Policy*.

<sup>154</sup> Hashim, above n 124; Frederick Noronha and Jeremy Malcolm, above n 110.

<sup>155</sup> C. Rossini, 'The open access movement: opportunities and challenges for developing countries. Let them live in interesting times' (2007) *Diplo Foundation*. Available: <http://campus.diplomacy.edu/env/scripts/Pool/GetBin.Asp>.

<sup>156</sup> Suber, above n ; John Houghton and Graham Vickery, 'Digital Broadband Content: Scientific Publishing' (2005) Working Paper, Organisation for Economic Co-operation and Development, OECD Publishing, Working Party on the Information Economy, Paris. <[http://www.oecd-ilibrary.org/science-and-technology/digital-broadband-content-scientific-publishing\\_9789264065901-en](http://www.oecd-ilibrary.org/science-and-technology/digital-broadband-content-scientific-publishing_9789264065901-en)>.

<sup>157</sup> B. Erklärung, 'Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities' (Paper presented at the Conference on Open Access to Knowledge in the Sciences and Humanities (20-22 Oct 2003, Berlin). <http://oa.mpg.de/openaccessberlin/berlindeclaration.html> [2009-07-27], 2003).

<sup>158</sup> Anonymous, 'Ministerial Declaration on Access to Research Data from Public Funding' (2004) *OECD*.

## 2.2 OPEN GOVERNMENT OVERVIEW AND THE PRIORITIES OF GOVERNMENTS

‘Sunlight is the best disinfectant’, a famous quote from United States Supreme Justice Louis Brandeis, refers to the great benefits that can be achieved if open environments are embraced.<sup>159</sup> Grumet emphasises that, for organisations to gain respect and credibility, they must work in an open atmosphere. He states that ‘people who feel uncomfortable under the bright light of scrutiny and criticism often have something to hide.’<sup>160</sup> He further recommends that societies as well as businesses embrace openness as the only way to operate and prosper, since a high level of openness is the identifying characteristic of democracy.<sup>161</sup>

Professor Beth Noveck is a leading proponent of Open Government and led the White House’s Open Government Initiative. In testimony before the Canadian parliament in 2011, Professor Noveck stated that Open Government goes far beyond transparency, as it provides the ability to use network technology to discover collaboratively creative new solutions to challenges that government by itself cannot address. As Noveck simply states, ‘Government doesn’t have all the answers.’<sup>162</sup> She focuses the significance and vitality of opening up government towards a more collaborative environment with its constituents. Bollier argues that governments have a fiduciary duty, which they must act in accordance with when it comes to their relationship with taxpayers.<sup>163</sup> Thus, governments must be more proactive to try to engage citizens and taxpayers, and not just take a reactive stance.

Robinson et al note that governments tend to prioritise their e-Government websites over establishing a technical infrastructure designed to open up their data to stakeholders.<sup>164</sup> They argue that this understanding is a mistake, and that governments would be better off with providing reusable data, than providing websites. Robinson et al assert that ‘the federal government has shown itself consistently unable to keep pace with the fast-evolving power of the Internet’, and

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<sup>159</sup> L Grumet, *Sunlight is the Best Disinfectant* NYSSCPA  
<<http://www.nysscpa.org/cpajournal/2003/1203/nv/nv2.htm>>.

<sup>160</sup> Ibid.

<sup>161</sup> Ibid.

<sup>162</sup> B Noveck, 'Testimony Before the Standing Committee on Access to Information, Privacy and Ethics of the Canadian Parliament' (2011) (2/3/2011)

<sup>163</sup> D. Bollier et al, 'The enclosure of the academic commons' (2002) 88(5) *Academe* 18.

<sup>164</sup> D. Robinson et al, 'Government data and the invisible hand' (2009) *Yale Journal of Law & Technology*, Vol. 11, p. 160, 2009

that, for the government to benefit from the Internet, it must re-imagine its role as an information provider, rather than struggling to design sites that aim to meet end-users' needs. They recommend that government 'focus on creating a simple, reliable and publicly accessible infrastructure that exposes the underlying data,'<sup>165</sup> and that the best way to allow individuals and private parties equal access to government data is to 'require that federal websites themselves use the same open systems for accessing the underlying data as they make available to the public at large'.<sup>166</sup> They argue that 'government must provide data', and that if the government wants to maximize the public value of its data, it must rely on private parties and the vibrant marketplace to develop interactive websites for public access to government data.

Fariseli and others emphasise the importance of public information being made available on the Internet. They suggest that 'information availability' must be considered at the top of government priorities, and that the Cap Gemini Ernst & Young (CGEY) model of assessing e-Government achievement and comparing countries should be updated or modified. They recommend that providing access to information available be the model's chief priority.<sup>167</sup>

Mayo and Steinberg stress that making public information available for citizens to use and reuse would in fact provide them with better services. They note that citizens themselves can be valuable sources of information and advice for the government, in increasing the overall value of public information for the common public good.<sup>168</sup>

On the other hand, when it comes to research data for example, a substantial amount of the funding that goes to creating that data worldwide comes from public funds. As a logical consequence (and as a moral argument), taxpayers must have access to that data, since they are the ones who originally paid for its production.<sup>169</sup> In a report submitted to OECD, Houghton and Vickery emphasise the fundamental

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<sup>165</sup> Ibid.

<sup>166</sup> Ibid.

<sup>167</sup> P. Fariselli, O. Bojic and J. Culver-Hopper, 'Demand and supply of public information online for business: A comparison of EU countries and the US' (2004) *Electronic Government* 534.

<sup>168</sup> E Mayo and T Steinberg, 'The Power of Information: An independent review ' (2007) <[http://collections.europarchive.org/tna/20080804145057/http://www.ncc.org.uk/nccpdf/poldocs/NCC160pb\\_power\\_of%20information\\_review.pdf](http://collections.europarchive.org/tna/20080804145057/http://www.ncc.org.uk/nccpdf/poldocs/NCC160pb_power_of%20information_review.pdf)>.

<sup>169</sup> Hashim, above n 124; R. Anderson, 'Author disincentives and open access' (2004) 30(4) *Serials review* 288.

importance of public funding in producing government information. They argue that the ability of the people to access that data was therefore important in sustaining the funding life cycle process.<sup>170</sup>

The PEW Research Centre<sup>171</sup> emphasises the crucial role citizens could have if government information were made available online. It conducted a national survey, and found e-Government to be a necessity, with a majority of respondents expressing a preference for access to government documents and information.<sup>172</sup> Moreover, Lievesley has stressed that data should be withheld and restricted only on the basis of the legitimate likelihood of a negative impact on national security, confidentiality and privacy concerns, intellectual property rights, or timely exclusive rights of use by the principal investigator of that data. The default should always be for the disclosure of public information for the public good.<sup>173</sup>

This is in line with the latest developments in the data sharing and management strategies of several countries. In the UK, for example, research agencies rank the ultimate public sharing of data and information as amongst their most important priorities. Their data sharing policies aim to share the outcomes of their research with the public in an open and transparent environment.<sup>174</sup> Open access to data and information produced by academic institutions is a fundamental instrument in achieving and supporting their aims and the aspirations for further innovation in society. Deakin University confirms, in an inquiry submission to the Victorian government, that open access to public sector information is a crucial factor in achieving the aims and goals of academic institutions, especially in terms of research and innovation.<sup>175</sup> In 2007, a group of twelve prominent universities in the United

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<sup>170</sup> Houghton and Vickery, above n 156.

<sup>171</sup> Pew Research Centre, <<http://pewresearch.org/>>.

<sup>172</sup> PEW, *Information searches that solve problems* PEW Research Center <[http://www.pewinternet.org/~media/Files/Reports/2007/Pew\\_UI\\_LibrariesReport.pdf.pdf](http://www.pewinternet.org/~media/Files/Reports/2007/Pew_UI_LibrariesReport.pdf.pdf)>.

<sup>173</sup> Denise Lievesley, 'Information is Power: Overcoming Obstacles to Data Sharing' (Paper presented at 5/8/2011 2009).

<[http://inspire.jrc.ec.europa.eu/events/conferences/inspire\\_2009/presentations/plenary/inspire2009\\_lievesley.pdf](http://inspire.jrc.ec.europa.eu/events/conferences/inspire_2009/presentations/plenary/inspire2009_lievesley.pdf)>.

<sup>174</sup> UK Data Archive, *UK Data Archive: Managing and Sharing Data - Best Practise for Researchers* (University of Essex, 2011).

<sup>175</sup> Anonymous, 'Inquiry into Improving Access to Victorian Public Sector Information and Data' (2009)

<[http://www.parliament.vic.gov.au/images/stories/committees/edic/access\\_to\\_PSI/EDIC\\_ACCESS\\_TO\\_PSI\\_REPORT\\_2009.pdf](http://www.parliament.vic.gov.au/images/stories/committees/edic/access_to_PSI/EDIC_ACCESS_TO_PSI_REPORT_2009.pdf)>.

States required its researchers and scientists, when publishing the results of their work, to make all their published data and research outcomes available for other researchers to reuse for verification and further analysis.<sup>176</sup> In Germany, the German Science Foundation has required its researchers to archive data used in publications for a minimum of a decade.<sup>177</sup>

Osimo argues that current practice of measuring e-Government progress by the availability of online services is reaching the end of its usefulness. He further recommends, based on the latest developments in Web 2.0, that the ‘transparency of public data’ should be considered as a flagship e-Government initiative, just as ‘making services available’ was in the previous era.<sup>178</sup> He proposes a new model to measure online interactivity, in which the availability of reusable and machine-readable data, in Web 2.0 era, would replace the so-called transactional level of Web 1.0 era.<sup>179</sup> In view of the latest Web 2.0 developments, Osimo has introduced a new approach for measuring e-Government, as he argues that the current one is ‘rooted in an old vision of eGovernment, which is now losing its relevance’.<sup>180</sup> He raises questions about ability of the current benchmarking approach to deliver any benefit to users in general, as ‘available online services have been little used.’<sup>181</sup>

Ultimately, Osimo asserts that the ‘the time seems ripe for a new vision for eGovernment’ or a new flagship goal, where the availability of information is that goal. He stresses that the problem lies in the outdated vision of e-Government itself. The United States e-Government survey of 2008 confirmed the need for a new vision of e-Government by outlining what it called ‘connected governance’.<sup>182</sup> Cisco, for its part, proposed what it called a ‘connected republic’.<sup>183</sup> There is a wider need for a

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<sup>176</sup> Universities Allied for Essential Medicines, ‘In the Public Interest: Nine Points to Consider in Licensing University Technology’ (2007) Stanford University  
<<http://essentialmedicine.org/sites/default/files/archive/Stanford%20White%20Paper.pdf>>.

<sup>177</sup> J. Klump et al, ‘Data publication in the open access initiative’ (2006) 5(0) *Data Science Journal* 79; Hashim, above n 124.

<sup>178</sup> D. Osimo, ‘Benchmarking eGovernment in the Web 2.0 era: what to measure, and how’ (2008) 4 *European Journal of ePractice*.

<sup>179</sup> Ibid.

<sup>180</sup> Ibid.

<sup>181</sup> Osimo, above n 178.

<sup>182</sup> United Nations, ‘UN E-Government Survey: From e-Government To Connected Governance’ (2008) UN Doc ST/ESA/PAD/SER.E/112  
<<http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN028607.pdf>>.

<sup>183</sup> A. Lange et al, ‘The connected republic and the power of social networks’ (2008) *The Cisco Internet Business Solutions Group*.

new vision for e-Government, one that focuses on information and collaboration as a new impetus for the future e-Government. Osimo refers to this new vision as 'eGovernment 2.0', a name that implies the use of Web 2.0 in government organisations in general. The research in the next section strives to give an in-depth overview of Web 2.0's definition, characteristics, applications, and technologies.

### 2.3 WEB 2.0, THE NEW SOCIAL MEDIA

Establishing a link between the government and the community at the time of planning, building, and launching an e-Government system is a major factor in whether the system succeeds or fails. Establishing this connection and enabling it to flourish is a major aspect of the success of any e-Government initiative. Thus, many scholars attribute the failure of e-Government systems to deliver their expected outcomes to the fact that they were based on, or created in, the Web 1.0 era. Bastroski and Hadden observe that 'e-Government did not achieve expected results because enabling technology was Web 1.0 oriented'.<sup>184</sup>

Since 2003, a new wave of web-based services has emerged which have achieved huge success in terms of their uptake and usage, notwithstanding that they often required little investment to produce. They fall under the heading of Web 2.0 or its denominations such as Read/Write Web, Social Networking, Social Computing, or Participative Web.<sup>185</sup> Web 2.0 provides online users with interactive services in which they have control over their data and information on the web.<sup>186</sup> There are many examples of these new Web 2.0 technologies, such as blogs, wikis, instant messaging, RSS, social bookmarking, and social networking websites.<sup>187</sup> Dearstyne comments that these technologies have the power to make sharing web content among users much easier than in the past, and to change the way documents are created, used, shared, and distributed.<sup>188</sup> The number of blogs, wikis and social networking websites grew exponentially in the mid 2000s.

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<sup>184</sup> M Batroski and D Hadden, 'Embracing Government 2.0: Leading transformative change in the public sector' (2010) *Grant Thornton*

<sup>185</sup> Osimo, above n 178.

<sup>186</sup> H. Ajjan and R. Hartshorne, 'Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests' (2008) 11(2) *The Internet and Higher Education* 71.

<sup>187</sup> Ibid.

<sup>188</sup> B.W. Dearstyne, 'Blogs, Mashups, and Wikis, Oh, My!' (2007) 41(4) *The Information Management Journal* 24.

Web 2.0 technologies have gained tremendous success since their inception. Many companies and enterprises have adopted Web 2.0 technologies and applications to strengthen internal knowledge sharing and enhance collaboration within their organisations.<sup>189</sup> In 2008 Forrester Research predicted that enterprises' spending on Web 2.0 technologies would increase dramatically from 2007 to 2013, to reach a global enterprise market of about \$4.6 billion in 2013.<sup>190</sup> Lindmark found that in the United States alone, Web 2.0's market share rose from about 3% in mid 2005 to more than 15% in mid 2007.<sup>191</sup> The variations on spending on different Web 2.0 applications are depicted in Table 1 below:

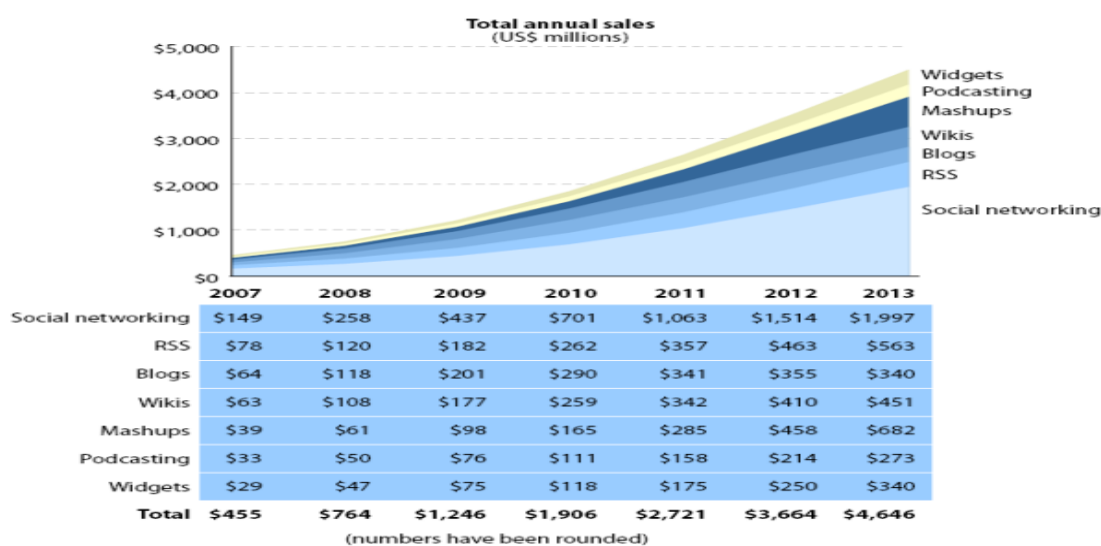


Table 1 : Web 2.0 Prospective Spending for the period 2007-2013<sup>192</sup>

Dearstyne asserts that since 2003, the emergence of Web 2.0 technologies has been boosted and fuelled by the exchange of personal information, photos and videos on sites such as Facebook, Flickr, and YouTube; the increased need for tools to create, analyse, and exchange the booming amounts of information; and the ease of use of Web 2.0 collaboration software.<sup>193</sup>

<sup>189</sup> *ibid.*

<sup>190</sup> G Young, *Global Enterprise Web 2.0 Market Forecast: 2007 To 2013* Forrester Research <[http://www.forrester.com/rb/Research/global\\_enterprise\\_web\\_20\\_market\\_forecast\\_2007/q/id/43850/t/2](http://www.forrester.com/rb/Research/global_enterprise_web_20_market_forecast_2007/q/id/43850/t/2)>.

<sup>191</sup> S. Lindmark, 'Web 2.0: Where does Europe stand?' (2009) 53035 *Technical Note JRC*

<sup>192</sup> Young, above n 190.

<sup>193</sup> Dearstyne, above n 195.

The differences between the traditional and the new web technologies are illustrated in Figure 6 below. In a marked departure from Web 1.0, in the Web 2.0 era it is communities of users who are developing web content.<sup>194</sup>

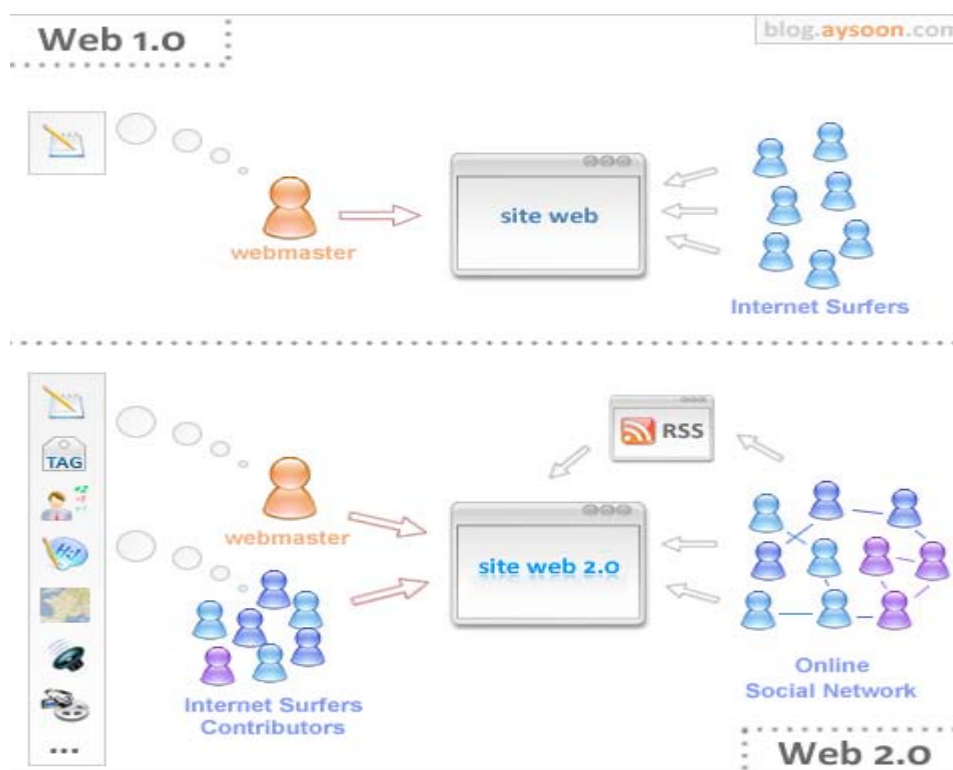


Figure 7 : The Differences between Web 1.0 and Web 2.0<sup>195</sup>

The extensive use of YouTube and other Web 2.0 platforms as an interactive medium for connecting with prospective voters in recent United States elections is an example of participation that would not have been possible in earlier times. Another example is the use by Netherland scholars of MSN and a website ('hyves') to conduct a protest against education hours in their country. These two examples, among many others, are indicative of an increasing trend of utilising Web 2.0 to address real life issues. 'Web 2.0 is often presented as a revolutionary way of

<sup>194</sup> Tapiador, Antonio, Antonio Fumero, Joaquin Salvachua et al 'A Web Collaboration Architecture' (Paper presented at International Conference on Collaborative Computing: Networking, Applications and Worksharing, Atlanta, November 2006) 1-4.

<sup>195</sup> S Hamid, *Web 1.0 vs Web 2.0, the Difference* (18 August 2007) Sizlopedia  
<<http://www.sizlopedia.com/2007/08/18/web-10-vs-web-20-the-visual-difference/>>.



gathering, organizing and sharing of information,'<sup>196</sup> say de Kool and van Wamelen. Cisco has depicted the anticipated growth of Web 2.0 in Figure 7 below:<sup>197</sup>

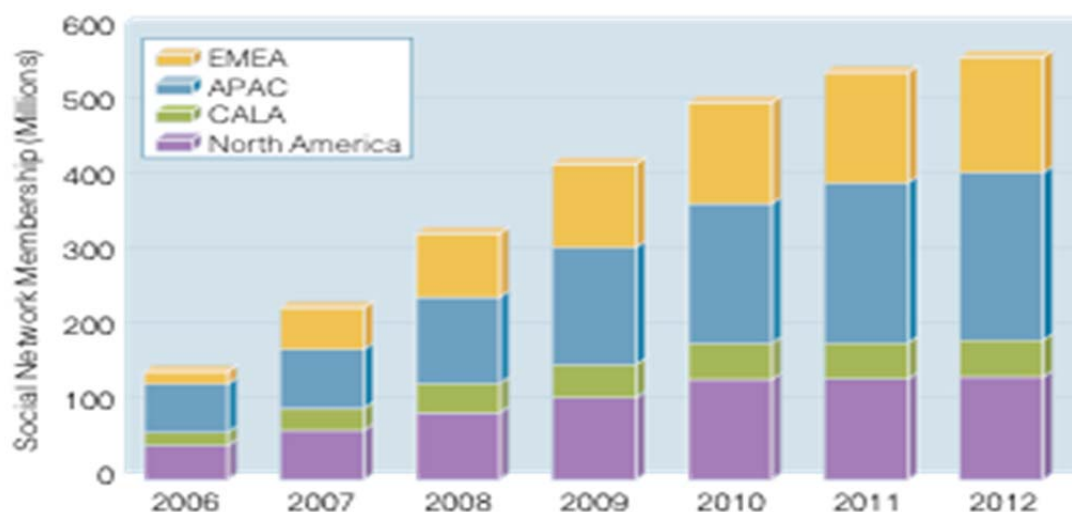


Figure 8 : Social Network (Web 2.0) pervasive growth<sup>198</sup>

Osimo states that there is ‘a paradox between the slow take-up of large-scale online public services and the rapid take-up of low-budget user-driven applications’. Osimo concludes that governments should begin experimenting with Web 2.0 applications to build a more interactive and transparent relationship with their citizens.<sup>199</sup> Woods confirms the potential of Web 2.0 to take the evolution of e-Government in new directions. Web 2.0 has a lot to offer the public sector in terms of interaction, participation, collaboration, and transparency. De Kool and van Wamelen assert that ‘Web 2.0 applications gain an importance in today’s society and cannot be ignored by the public sector.’ They even add that ‘nowadays a lot of governments experiment with different technological applications in order to improve the provision of services or to stimulate the communication with and participation of citizens’.<sup>200</sup>

<sup>196</sup> de Kool and van Wamelen, above n 34.

<sup>197</sup> A. Lange et al, 'The connected republic and the power of social networks' (2008) *The Cisco Internet Business Solutions Group*, available online at <http://www.cisco.com/go/ibsg> 183.

<sup>198</sup> Ibid.

<sup>199</sup> Osimo, above n 178.

<sup>200</sup> de Kool, D. and Van Wamelen, J. (2008). *Web 2.0: A New Basis for E-Government? Proceedings of the 3rd International Conference on Information and Communication Technologies: From Theory to Applications*, (ICTTA Damascus, Syria, IEEE Xplore, 2008).

Toshio argues that Web 2.0 does not represent a real object; rather it is a stage, a process or a new business model.<sup>201</sup> This is consistent with de Kool and van Wamelen's research, which describes as a generic term or a metaphor for new Internet technologies and applications. They say that Web 2.0 is not a uniform concept, describing it as the second generation of the Internet where user-generated-content plays a major role. Web 2.0 is usually explained or discussed by reference to general descriptions rather than specific definitions because of the broadness of the concept.<sup>202</sup>

Di Maio argues that Web 2.0 can help to accelerate e-Government in developing countries. He believes that e-Government solutions in developing countries should not be a mere application of 'best practices' implemented in developed ones. He adds that for many reasons, such as demographics and lack of legacy, developing countries have much to benefit from what Web 2.0 can offer: 'greater transparency and constituent engagement should help to reduce the potential for corruption.' He recommends examining the uptake of Web 2.0 applications in order to identify possible Web 2.0 opportunities in online services provision.<sup>203</sup>

### 2.3.1 What is Web 2.0?

Web 2.0 refers to a new generation of online web applications that permits its users to collaborate and share information online.<sup>204</sup> Tim O'Reilly and Dale Dougherty coined the name in 2004 during a team discussion about future web conferences.<sup>205</sup> Even though some scholars have criticised it as ambiguous and unclear, there is agreement on Web 2.0 as a concept that represents a major shift in how people interact with and manipulate the web. Web 2.0 gives them the ability and privilege to read, edit, and add to the online environment. Unlike the static Web 1.0, Web 2.0 is more dynamic, allowing its users to contribute to the web, and add to its content.<sup>206</sup>

Tim O'Reilly defines Web 2.0 as follows:

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<sup>201</sup> Obi, above n 19.

<sup>202</sup> de Kool and van Wamelen, above n 200.

<sup>203</sup> Di Maio, above n 121.

<sup>204</sup> RT Wigand, 'Web 2.0: Disruptive technology or is everything miscellaneous' (2007) *Information management: Setting the scene* 269.

<sup>205</sup> T O'Reilly, *Web 2.0: Compact Definition? O'Reilly Radar 2005*  
<<http://radar.oreilly.com/2005/10/web-20-compact-definition.html>>.

<sup>206</sup> Tapiador et al, above n 194.

Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an ‘architecture of participation,’ and going beyond the page metaphor of Web 1.0 to deliver rich user experiences.<sup>207</sup>

O’Reilly identifies the following principles for a Web 2.0 application:

- The Web as platform
- Harnessing the Collective Intelligence
- Data is the next ‘Intel Inside’
- End of the software release cycle
- Lightweight programming model
- Software above the level of a single device
- Rich user experience

According to Osimo, Web 2.0 is about both technology and attitude. He asserts that: ‘User contributions are made more meaningful and rich through collaboration and networking between users, so that the total is more than the sum of the individual collaborations.’<sup>208</sup> This aligns with O’Reilly’s view of Web 2.0 as a service that ‘gets better the more people use it’.<sup>209</sup>

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<sup>207</sup> T O’Reilly, *What Is Web 2.0 Design Patterns and Business Models for the Next Generation of Software* <<http://oreilly.com/web2/archive/what-is-web-20.html>>.

<sup>208</sup> Osimo, above n 178.

<sup>209</sup> O’Reilly, above n 200.

Values	User as producer, Collective intelligence, Perpetual beta, Extreme ease of use
Applications	Blog, Wiki, Podcast, RSS feeds, Tagging, Social networks, Search engine, MPOGames
Technologies	Ajax, XML, Open API, Microformats, Flash/Flex,

Table 2 : Operational Description of Web 2.0<sup>210</sup>

The various Web 2.0 applications and technologies share the generic attributes of allowing easy publishing, information sharing and collaboration.<sup>211</sup> However, according to Lindmark, what really distinguishes Web 2.0 from Web 1.0 is the new role of users. As he puts it, ‘the most salient new roles occur when users double as producers, provide peer reviews, test applications, and provide collective input.’<sup>212</sup>

### 2.3.2 Web 2.0 characteristics

There are some attributes and characteristics that distinguish Web 2.0 from the earlier Web 1.0 applications and technologies. These features can be summarised as follows<sup>213</sup>:

- User generated content (UGC). This represents a major trait of Web 2.0, whereby users can create, organise, and categorise web content.<sup>214</sup> Users can also contribute to user-generated metadata, which is data that describes the user’s content, such as tags and bookmarks.<sup>215</sup>
- The wisdom of the crowds. This concept implies that many people contributing to resolve issues collaboratively can solve problems more

<sup>210</sup> Osimo, above n 178.

<sup>211</sup> Lindmark, above n 191.

<sup>212</sup> Ibid.

<sup>213</sup> N. Aharony, 'Web 2.0 use by librarians' (2009) 31(1) *Library & information science research* 29

<sup>214</sup> M. Levy, 'WEB 2.0 implications on knowledge management' (2009) 13(1) *Journal of Knowledge Management* 120.

<sup>215</sup> R. Valdes and D.M. Smith, 'Web 2.0: Get Ready for the Next Old Thing' (2005) 28 *Gartner Inc.*

effectively and efficiently than even the most intelligent individuals acting on their own.<sup>216</sup>

- Sharing of information. This reflects the sharable, distributed, and editable content of Web 2.0.<sup>217</sup>
- Lightweight. This refers to the simplicity of Web 2.0's functionality, the user interface, and type of technology used to develop its applications.<sup>218</sup>
- Openness. This reflects Web 2.0's use of standard, open-source software to develop and make use/re-use free data in an open innovation environment.<sup>219</sup> Openness also refers to the fact that there is either no licence on Web 2.0 content, or it is provided under open content licences, such as the content of Wikipedia and Wikimedia Commons (which is provided under Creative Commons license).<sup>220</sup>

Based on these unique attributes and characteristics of Web 2.0, and the power that its increased UGC gives its users to have more control over their web content, Web 2.0 has become all pervasive, as illustrated in Figure 2.3:

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<sup>216</sup> Aharony, above n 213.

<sup>217</sup> *ibid.*

<sup>218</sup> Valdes and Smith, above n 215.

<sup>219</sup> P. Andersen, *What is Web 2.0?: ideas, technologies and implications for education* (Citeseer, 2007).

<sup>220</sup> Tapiador et al, above n 194.

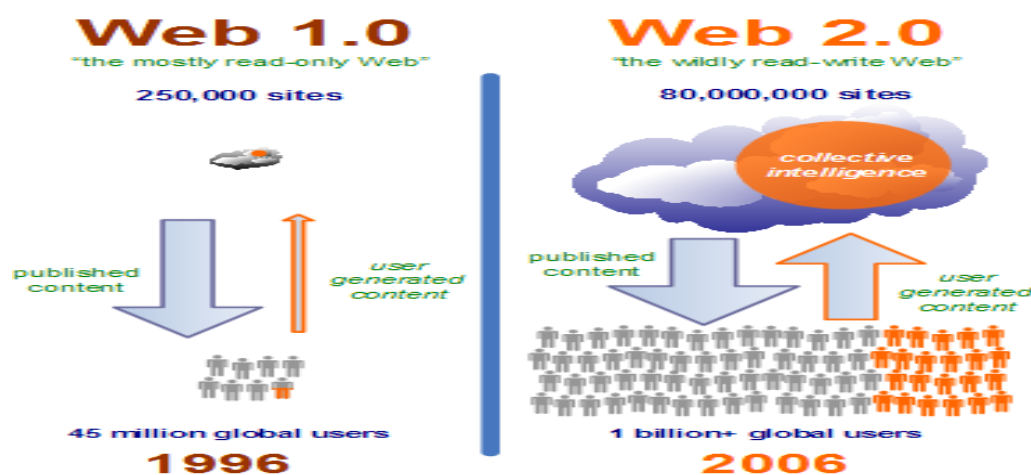


Figure 9 : Web 2.0 Development from 1996 to 2006<sup>221</sup>

### 2.3.3 Web 2.0 applications

There are a range of Web 2.0 applications that all share the characteristics described above. They allow their users to publish, filter, edit, search, subscribe, collaborate, and communicate online in an interactive environment.<sup>222</sup> The read/write ability is of course not new. Rather, it is the *openness* of these new applications, allowing anyone to modify the content, which makes Web 2.0 technologies unique.<sup>223</sup> Users now play a more fundamental and active role in the information architecture.<sup>224</sup> Web 2.0 applications replace the traditional authoritarian media delivery institutions with the wisdom of the crowd.<sup>225</sup>

There are numerous popular Web 2.0 applications, which can be categorised as follows:

- Web logs: known as ‘blogs’ for short, web logs are one of the oldest Web 2.0 applications. They are websites with frequently updated user-created entries.<sup>226</sup> Those entries (or ‘posts’) can be text, images, or links to other web content, arranged in chronological order with the most

<sup>221</sup> D Ciccarelli, *Web 2.0 Definition* <[http://blogs.voices.com/thebiz/2006/09/web\\_20\\_definition.html](http://blogs.voices.com/thebiz/2006/09/web_20_definition.html)>.

<sup>222</sup> Tapiador et al, above n 194.

<sup>223</sup> B. Alexander, 'A new wave of innovation for teaching and learning' (2006) 41(2) *Educause review* 32.

<sup>224</sup> *Ibid.*

<sup>225</sup> M. Madden and S. Fox, 'Riding the waves of “Web 2.0.”' (2007) 23(1) *Backgrounder, Pew Internet and American Life Project* .

<sup>226</sup> Lindmark, above n 191.

recent post first, in the style of an online journal.<sup>227</sup> Blogs are interactive, so that other users can provide feedback and comments, and exchange ideas online directly with the author of the post.<sup>228</sup>

- Wikis: these are collaborative websites whose users can interact by adding, removing, or modifying the site's content and layout through a simple process. The more users involved in the collaborative authoring, the richer the web content will be. Generally, they have a history attribute, which allows a rollback function.<sup>229</sup> The most popular wiki by far is Wikipedia.<sup>230</sup> The Pew Research Centre found that 30% of Internet users visit Wikipedia to resolve their queries.<sup>231</sup> At the timing of writing this report, Wikipedia has more than 30 million articles in different languages.
- Discussion forums: sites that provide an online location where both novices and more experienced users interact through open discussions on various topics. Often such a service requires constant moderation to remove any off-topic content and spam.<sup>232</sup>
- Social networking: sites that allow users to create their own personal profiles online and connect their family, friends, and colleagues to them. Users can upload and share digital content (audio, videos, images, tags) or create groups to share common interests in order to foster cooperation and collaboration amongst them.<sup>233</sup> Examples are Facebook, MySpace, and Linked In.
- Social bookmarking: these are sites that enable users to store, classify, and share their bookmarks and digital contents online. Users can explore the bookmark collections of others by subscribing to their bookmark pages. If they find a website of special interest, they can tag it with keywords (tags) as a classification to make it easier for others to

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<sup>227</sup> Ibid.

<sup>228</sup> Ajjan and Hartshorne, above n 186.

<sup>229</sup> Lindmark, above n 191.

<sup>230</sup> Ajjan and Hartshorne, above n 186.

<sup>231</sup> Madden and Fox, above n 225.

<sup>232</sup> Robinson et al, above n 164.

<sup>233</sup> Alexander, above n 223.

find and explore.<sup>234</sup> Those tags are created on websites like del.icio.us, rather than on the web browser. This feature allows the creator as well as other users to share their bookmarks online from anywhere around the world.

- **Multimedia sharing:** these are sites that allow users to upload, store, display, and share their audio and video. They also enable users to classify, tag, and comment on each other's uploads. Examples of these sites are YouTube and Flickr.
- **Content syndication:** this refers to the distribution of content from various websites (blogs, newspapers, others) to an aggregation site using a syndication protocol such as Really Simple Syndication (RSS).<sup>235</sup> By subscribing to these aggregation sites, users can get updates of any recent changes or modifications in the sites they follow, without having to visit those particular sites for updates in the traditional way.<sup>236</sup> Individuals use RSS reader software to subscribe to any desired feeds. They then get an automatic RSS feed of any new updates sent directly to them. On government sites, for example, these changes could vary from a creation of a new item in a specific department or topic, to replies to a particular comment, to the announcement of a new action plan in an agency, and so on.<sup>237</sup>
- **Advanced search engines:** the latest search engines go beyond conventional direct text matching to more sophisticated search capabilities that support features such as multidimensional search, complex and logical queries search, and searching of ranges of data. These features provide the ability to suggest better ways to refine and develop the search query for.<sup>238</sup>
- **Other apps:** in addition to the major applications, improved outcomes that come under the banner of Web 2.0. These include data mashups, which are services that pull together data from different sources to

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<sup>234</sup> Ajjan and Hartshorne, above n 186.

<sup>235</sup> Levy, above n 214.

<sup>236</sup> Ibid.

<sup>237</sup> Robinson et al, above n 164.

<sup>238</sup> Ibid.



create a new service.<sup>239</sup> These could be useful in government departments – for example, an agency’s site might extract and combine data from other agencies’ sites or the non-government sector. Thus, Maplight.org combines the voting record of Congressmen with their campaign donations.<sup>240</sup> Micro-blogging – such as Twitter, launched in July 2006 – allows its users to upload short update messages through text messaging, instant messaging, email, or directly to the web.<sup>241</sup>

### 2.3.4 Web 2.0 Technologies

Web 2.0 applications are based on a group of technologies that increase the usability and interoperability of Web 2.0 applications. Those technologies are the building blocks for creating and developing Web 2.0 applications. Any Web 2.0 application cannot be developed unless one or more of these technologies are implemented to create the application, as they enable dynamic interaction between the users. These technologies may be summarised as follows:

- **AJAX:** Asynchronous JavaScript and XML, which is a set of interrelated web development techniques used to create interactive web applications. A main attribute of AJAX is that it enables the exchange of small amounts of data. This increases the responsiveness of Web 2.0 applications, as the entire website does not have to be reloaded back from the server every time an update is made to the page.<sup>242</sup>
- **Syndicated feeds:** these include RSS (Really Simple Syndication), developed by Netscape and Atom Syndication Format. Syndicated feeds are the most popular technology sets for creating feeds of recent website updates to subscribed users.<sup>243</sup>
- **Wiki software:** open-source software that allows web pages to be created, edited, and linked using a web browser. Wiki is implemented as a software engine running on a web server.<sup>244</sup>

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<sup>239</sup> Lindmark, above n 191.

<sup>240</sup> Robinson et al, above n 164.

<sup>241</sup> Lindmark, above n 191.

<sup>242</sup> Ibid.

<sup>243</sup> Alexander, above n 223.

<sup>244</sup> Lindmark, above n 191.

- Mashup technology: hybrid technology that makes it possible to merge content from more than one source in order to provide a unique new service. Extracting cartographic data from Google Maps to add location information to other services such as real estate listings. Incorporating widgets to any website is another example of mashups.<sup>245</sup>
- Other technologies: one such technology is the permalink, a URL used in blogs as a pointer to other entries. Linkback, Refback, Trackback, and Pingback are all forms of notification that allow authors to know whether others are linking to their documents.<sup>246</sup> Improvements in network bandwidth and mobile Internet have enabled devices with better processing, storage, and so on.<sup>247</sup>

All of the above technologies and recent developments in Information Technology have jointly contributed to the wide spread of Web 2.0 applications.

Web 2.0 has transformed the traditional passive consumption user role to a more active and dynamic one, in which the user not only retrieves information, but also can provide content, comments, and tags, and can contribute to the collective intelligence.<sup>248</sup> This is possible because of the extreme ease of use of Web 2.0 applications, which have made it possible for even a lay user to get involved in the loop.<sup>249</sup>

Many scholars have commented on the overwhelming effect of Web 2.0 in people's everyday lives. As Lindmark observed in 2009, 'from not having existed some 10 years ago, many Web 2.0 applications are now on the verge of becoming mainstream.'<sup>250</sup>

This Chapter has covered the technologies and applications that governments can use to further the relationship between them and their constituents. The related trend toward global Open Government is the subject of the following chapter.

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<sup>245</sup> Ajjan and Hartshorne, above n 186.

<sup>246</sup> Lindmark, above n 191.

<sup>247</sup> Ibid.

<sup>248</sup> Alexander, above n 223.

<sup>249</sup> Lindmark, above n 191.

<sup>250</sup> Ibid.

## 2.4 THE CURRENT STATUS OF E-GOVERNMENT AND THE NEED FOR OPEN GOVERNMENT

David Robinson and his colleagues at Princeton University's Centre of Information Technology Policy drew attention to the trend for government bodies to give higher priority to creating their own websites than creating the required infrastructure to open up their data, regarding this as a mistake. They recommended that all government bodies should establish an online publishing strategy whose core component would be, not to provide a departmental website, but to provide reusable data.<sup>251</sup> They argued that government must re-imagine its role as an information provider, rather than continue to struggle to create various websites that attempt to meet the perceived needs and the expectations of different end-users.

Robinson et al. called on government to 'focus on creating a simple, reliable and publicly accessible infrastructure that exposes the underlying data.'<sup>252</sup> They argued that other parties - whether non-profit organisations or commercial entities - were better suited to delivering government information to end-users. These non government parties are better positioned to constantly and continuously reshape the tools required for individuals to be able to harness and leverage the available public data, and so maximise its public value. Services such as advanced search, cross-indexing with other data sets, automated content analysis, and data visualisation tools were some of extra interactive-accessibility techniques that can only the flexible private sector could create.

The website Regulations.gov, launched in 2003, was intended for use by almost all government departments and agencies in the US to open up the government rulemaking process and to make it easier for American citizens to comment on proposed Federal legislation. It suffered from low usability because of its lack of a browsing capability and its limited search engine. It was not until 2008, after being relaunched in an advanced version, that the website became more usable and popular. Enhancements of the original website provided it with a more capable and efficient search engine, and, perhaps more importantly, released the site's underlying data in a computer-readable format. This feature enables any interested

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<sup>251</sup> Robinson et al, above n 164.

<sup>252</sup> Ibid.

user or a group of users to re-create the original website itself and re-offer it in a new enhanced version that could even compete with the original one.<sup>253</sup>

Govtrack.us, launched in 2004, was the first website in the world to provide a free, comprehensive legislative tracking facility to citizens. Embracing both Web 2.0 technology and the available open data,<sup>254</sup> the site integrates information on the text of bills, speeches on the floor, and votes of the two Houses of Congress, that has been reprocessed on tens of thousands of other websites.<sup>255</sup> Astonishingly, the website was created by a linguistics graduate student in his spare time.<sup>256</sup>

Those two crucial examples, as well as many others, show without doubt that private actors (represented by civil-society and not-for-profit bodies, commercial organisations, developers, activists, or even lay individuals) can have a great impact on making government data more useful for citizens. Government bodies and various entities must strive to re-orient the priorities of their online publishing plans towards providing more free data for their citizens, rather than prioritising the creation of their own websites.

There is a great contrast between the low-cost, quickly developed, and high usability Web 2.0-based applications that have gained a huge uptake, and the costly government online services, which have a low uptake. Thus, Osimo has suggested that governments should refrain from building services online, and simply change their role to exposing their data and information for further usability and easier manipulation by third parties.<sup>257</sup> The Vice President of Gartner, one of the leading Information Technology research and consulting think tanks in the world, has called for a ‘no government’ vision, where governments only provide their data in a machine-readable format, while government services are being provided by private intermediaries.<sup>258</sup>

David Robinson et al. say that the main goal must be to reach a state where governments, by default, provide all their public data for reuse without cost.

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<sup>253</sup> Regulations.gov, *eRulemaking Program* <<http://www.regulations.gov/#!aboutProgram>>.

<sup>254</sup> Govtrack.us, *Tracking the US Congress* <<http://www.govtrack.us/about>>.

<sup>255</sup> Robinson et al, above n 164.

<sup>257</sup> David Osimo, 'A short history of government 2.0: from cool projects to policy impact' (2009) 2 *State of the eUnion. Government* 97; Osimo, above n 171.

<sup>258</sup> Robinson et al, above n 164.

Dynamic third-party activity would help citizens both to interact and to add extra value and usefulness to such data. They recommend that governments should, and must not assign or nominate any particular third party to carry out such an interaction, but rather should only make the data accessible to all and leave it to third parties to compete for their customers or audiences. They further argue that government ‘rather than struggling, as it currently does, to design sites that meet end-user needs, it should focus on creating a simple, reliable and publicly accessible infrastructure that ‘exposes’ the underlying data’.<sup>259</sup>

## **2.5 COUNTRIES WORLDWIDE AND THE SHIFT TOWARDS ‘OPENNESS’ AND ‘OPEN DATA’**

The formation of World Data Centres (WDC) in 1955 by the International Council of Scientific Unions enabled and spurred the trend towards opening up information, and increasing the accessibility of data. The WDC’s main goal was to provide data in a machine-readable format in order to maximise data accessibility and minimise the risk of data loss.<sup>260</sup> Since that time, there has been a growing trend towards demanding and providing further platforms where open access to data can be realised and free and open sharing of data can be achieved.

In the period between July 1957 and December 1958, scientists from 67 different countries came together and participated in the International Geophysical Year (IGY). As part of IGY the participating scientists agreed to share the data resulting from research on oceanography, climatology, the earth’s atmosphere, and magnetic fields. The Antarctic Treaty 1959, signed and supported by 13 governments, requires the results of all scientific research on Antarctica to be made freely available for exchange and collaboration as a sign of international scientific cooperation.<sup>261</sup>

As can be seen from the above dates, open data concepts and principles predate the Internet era and the World Wide Web. The Internet era has its origins in the early 1980s, with the invention of what we know as the Internet and the standardisation of the interconnected TCP/IP networks.<sup>262</sup> The availability of fast and ubiquitous

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<sup>259</sup> Ibid.

<sup>260</sup> Wikipedia, *Open Data* (6/8/2012) <[http://en.wikipedia.org/wiki/Open\\_data](http://en.wikipedia.org/wiki/Open_data)>.

<sup>261</sup> J. Hanessian, 'Antarctic Treaty 1959, The' (1960) 9 *Int'l & Comp. LQ* 436.

<sup>262</sup> B.M. Leiner et al, 'A brief history of the Internet' (2009) 39(5) *Computer communication review* 22.

interconnected networks has brought for an exponential expansion in methods of open data release.<sup>263</sup> The Internet has had an enormous enabling influence on the open data movement. It provides both a platform for publishing raw data for free public access, and an open collaboration platform for re-using and sharing the outcomes of manipulating that raw data.

Specific recognition and support for the ‘open data movement’ came from the Organisation of Economic Cooperation and Development (OECD) in its declaration (Science, Technology and Innovation Policy for the 21st Century), adopted on 30 January 2004, which states that all publicly funded archive data should be made publicly available.<sup>264</sup> After extensive discussions with data providers in its member states, in 2007 the OECD published its Principles and Guidance for Access to Research Data from Public Funding.<sup>265</sup> The OECD recommends that its member countries should increase and facilitate various methods of open access to and reuse of publicly funded data and information.<sup>266</sup>

Consequently, many agencies that receive public research funding in OECD member states and Europe have started in promoting, encouraging, and even mandating openness and open access to their research outputs and publicly funded data. For example, the European Commission (EC) proposed and recommended an open access strategy and accessibility to public data to encourage knowledge transfer between and amongst various public organisations. In January 2008, the European Research Council (ERC) became the first public funding agency to embrace the values of openness in a mandate that applies to all its many of its data and publications. Under that mandate, the ERC requires the deposition on data in open access repositories within six months after the completion of any funded project. Moreover in December 2007, the US National Institutes of Health (NIH) adopted an open access mandate for all data resulting from NIH-funded research. According to the NIH mandate, data about the accomplishments, results and activities of NIH-funded projects will be shared and made available to the general public.<sup>267</sup> The

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<sup>263</sup> Houghton and Vickery, above n 156.

<sup>264</sup> P. Arzberger et al, 'An international framework to promote access to data' (2004) 303(5665) *Science* 1777.

<sup>265</sup> D. Pilat and Y. Fukasaku, 'OECD principles and guidelines for access to research data from public funding' (2007) 6(0) *Data Science Journal*.

<sup>266</sup> Hashim, above n 124.

<sup>267</sup> Suber, above n 146.

NIH's approach has been replicated in other public research funding agencies in the United States.

Canada launched a National Consultation on free access to data in 2004. A year later, the Canadian National Research Council initiated a national plan to harness and reutilise public data by facilitating seamless accessibility to publicly funded medical, technological, and scientific information. Other publicly funded organisations such as the Canadian Institute of Health Research (CHIR) and the Ontario Institute for Cancer Research (OICR) followed suit in developing and enabling open access to their valuable information and data immediately after its publication.<sup>268</sup>

In 2006 China, which is not an OECD member, announced its plans to establish a scientific data-sharing program. The plan is based on establishing 40 scientific data centres that are responsible for hundreds of databases. The uploaded information will relate to various fields including the environment, human health, engineering, agriculture and ICT, and the databases will be accessed through a public portal developed by the Ministry of Science and Technology.<sup>269</sup>

In Australia, the report of the review of the national innovation system, 'Venturous Australia: building strength in innovation', published in 2008, made some significant recommendations aimed at halting the decline of Australia's economic performance and utilising the opportunities provided by the nation's prosperity to achieve a more productive and innovative society. The Venturous Australia report set out some strong recommendations for further unlocking public information and data. Recommendation 7.7 proposed that Australia should establish a National Information Strategy to facilitate the flow of information and to enable access to high profile data by the general public. Furthermore, Recommendation 7.10 proposed that scientific data produced in Australia should be deposited into machine searchable repositories, to be developed and implemented using public funding agencies and universities as drivers.<sup>270</sup>

In 2011, several British research councils published similar statements of principle that committed them to opening up publicly funded research data to make it

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<sup>268</sup> Hashim, above n 124.

<sup>269</sup> Steve Pierson, 'Data sharing and the scientific community' (2010) (393) *AMSTAT news: the membership magazine of the American Statistical Association* 30.

<sup>270</sup> Cutler, above 126.

available to the general public with minimum restrictions. The UK Medical Research Council, the Economic and Social Research Council, the Cancer Research UK, the Natural Environment Research Council, and the Biotechnology and Biological Sciences Research Council are just some of the examples of those funding agency organisations that embraced ‘open data’ strategies and implemented them on the ground.<sup>271</sup> Moreover, the recent UK Government ‘Open Government White Paper’ urged and spurred all government bodies and different departments to open up their own data as quickly as possible and with as much details as possible.<sup>272</sup>

In summary, the trend towards openness and enabling open data access is no longer a marginal or demand-driven initiative, but has become the mainstream strategy of an increasing number of governments and public funding bodies around the globe.<sup>273</sup> The Open Government Partnership (OGP) founded in September 2011 initially involved eight founding countries that endorsed an Open Government Declaration and announced their action plans. It has grown rapidly with almost 55 countries having joined by June 2013. On 22 May 2013 Australia submitted its letter of intent to join the OGP with plans to endorse an open government declaration, and to present a national action plan in April 2014.

### 2.5.1 Critiques of ‘Open Data’

There are many factors in favour of the argument that ‘Open Data’ has now been established as a way to achieve efficiency throughout government bodies by increasing their transparency, and accountability. Open Data promotes public participation and increases civic engagement in the decision-making process. Overall, it encourages economic innovation in a society, and enhances socio-economic development. Kitchen has given a summary of four main aspects of Open Data initiatives which need to be considered when implementing or dealing with any Open Data initiative.<sup>274</sup>

Kitchen labels the first critique as the politics of the benign and empowering the empowered. Although Open Data can be a tool of creating free and open access to data, which empowers people, it is not obvious as of who will benefit from it most

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<sup>271</sup> Hashim, above n 124.

<sup>272</sup> Cabinet Office, *Open Data White Paper: Unleashing the Potential* (Stationery Office/Tso, 2012).

<sup>273</sup> Suber, above n 146.

<sup>274</sup> Rob Kitchen, *Four critiques of open data initiatives*

<http://blogs.lse.ac.uk/impactofsocialsciences/2013/11/27/four-critiques-of-open-data-initiatives/>



in the society. The argument is that the benefits of Open Data will potentially be gained only by those who already hold an elevated status in society – that is Open Data will simply further empower the empowered. This would result in a more unjust and unfair balance in the society, rather than benefitting the general public. Open Data is assumed to be a tool to implement fairness in the society by giving everyone an equal, and easy access to country's wealth of information. However Open Data could have an adverse impact by simply being utilised by only the few, who happen to have a greater competitive advantage in accessing that data. In this case, it would be used to empower those who are already empowered and disregards others, who happen to need its benefits the most.<sup>275</sup>

The second critique concerns funding and sustainability aspects of Open Data initiatives. In general, most of the focus in Open Data initiatives falls on the supply-side issues of the initiative such as identifying government bodies responsible of releasing data, limits of accessibility privileges granted to citizens, the type of datasets to be released to the public, and so on. On the contrary, very little attention is being allocated to consider the economics of developing a sustainable funded initiative. Data is being distributed and accessed at a very marginal costs involved or even free-of-charge some other times, however the actual first-ever copy of that data usually costs significant amounts of financial resources, as it involves the interaction of skilled and high-level experts to create it initially. Thus, the main issue would be to reach to a fully sustainable business model that, not only delivers new data to public, but would also guarantees that the actual available data have been delivered without huge losses to their producers.<sup>276</sup>

The third critique covers the utility and usability aspects of Open Data initiatives. In practice, many Open Data initiatives are too technical to be used by a layperson. Open Data websites tend to focus more on the quantity of datasets offered rather than on the quality of the content delivered. Those initiatives usually do not pay any attention to the usability of the content, or even to the complexity of the data portals themselves. All of the latter factors lead to less-organised websites that are purely looked at as 'data dump', rather than being well-organised data sites. Proper and successful data sites must have appropriate explanations of each dataset released,

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<sup>275</sup> Ibid.

<sup>276</sup> Ibid.

and must be very user-friendly as well. Thus the number of datasets released must not compromise the friendliness in those data sites. This critique would usually lead to releasing many complicated data websites that usually have many datasets released, while neglecting the simplicity and the thorough explanations of those pieces of information.<sup>277</sup>

The fourth critique is about the neoliberalisation and marketisation of public services in Open Data initiatives. This critique underpins the notion that Open Data can be a political initiative. It implies that the Open Data movement is not a neutral development; rather it is very diverse and complex development, stemming from different agendas and is not being driven by any one party. The argument is that political parties and business have promoted OGD initiatives under the guise of promoting transparency and openness, but really have an agenda that business can access data for no cost that is expensive to produce (thus causing the governments and the public to subsidise the operations of private businesses). The potential flow-on effects then are that services and data derived from public data is purchased back by the data creator (being the government), which at the same time, the data literacy of the government organisations that share data is hollowed out.<sup>278</sup>

Based on those four critiques, proper measures must be taken into consideration when developing Open Data websites initiatives to guarantee the quality of the datasets available, as well as the ease of use for users to browse, request, and utilise available datasets. The quantity of datasets available must not prevail over the quality of those datasets, as the main objective is the usability of these data so that the potential benefit of Open Data can be gained and the actual effect of openness can be attained. Open Data initiative that empowers all levels of the society and that considers the potential differences amongst them is needed to achieve fairness and justice in the society. A good business model that guarantees a sustainable data production-consumption cycle is a must for continuous, and sustainable development of such initiative.

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<sup>277</sup> Ibid.

<sup>278</sup> Ibid.

## 2.6 THE IMPORTANCE OF TRANSPARENCY

Transparency, if attained, could play a major role as a driver for the progress, prosperity, and development of any society. In the case of governments, transparency ‘exposes government behaviour to citizens’ scrutiny’.<sup>279</sup> Government innovation could be enhanced as a result of empowered citizens monitoring government performance and exposing its inefficiencies. Citizens may also play a role in avoiding and overcoming information asymmetries.<sup>280</sup> For instance, the public availability of hospital ratings, submitted by users to websites like PatientOpinion, could play a significant role in identifying problems and drawing public attention to possible problems causing inefficiencies in the public health care service. Other sites, such as FarmSubsidy.org, allow citizens to better understand and monitor government subsidies to farmers. Parents can choose more accurately and efficiently the type of schooling their children receive, if information about the schools’ performance indexes is publicly available. Consequently, the less popular schools are encouraged to improve their performance, resulting in improved educational achievements.<sup>281</sup>

Osimo regards ‘transparency’ is a key driver of government innovation based on two main factors<sup>282</sup>:-

- The wide availability of Web 2.0 technologies that can be used in relation to public data and maximise transparency. Tools such as blogs, mashups (Google Earth), and various free and open source softwares, make public data more easily comprehensible and increase transparency.
- The concept of many-to-many. Under this concept, any government document provided as a result of a Freedom of Information (FOI) inquiry is published online, where it is accessible to the rest of the community. In this way information obtained by an individual through FOI is shared with and can be reused by the whole community. In some

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<sup>279</sup> Osimo, above n 178.

<sup>280</sup> Ibid.

<sup>281</sup> Ibid.

<sup>282</sup> Ibid.

instances, FOI requests are managed by non-government websites such as Whatdotheyknow.com.

According to Osimo, these two factors (or ‘novelties’, as he describes them) signify the possibility of use and reuse of public data as part of the requirements for government transparency. He further claims that transparency and publication of reusable data is the key to enabling a user-led innovation.<sup>283</sup>

In summary, an emphasis on increasing governmental transparency would result in enhanced accountability levels through greater exposure of problems and inefficiencies in the operations of government. It would have a significant impact on the overall reform of, and innovation in, government.

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<sup>283</sup> Osimo, above n 178.

# Chapter 3: The Benefits of Openness and Open Data

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## 3.1 OVERVIEW

This chapter investigates the benefits of opening up governments to their societies, addressing the first subsidiary research question of the thesis: What are the benefits of Open Government Data? Answering this question is pivotal in understanding the real justifications for demanding an open government at the outset. It establishes the grounds for opening up government and making often hidden or locked internal data and information accessible to use and reuse. Unlocking the locked and exposing the protected constitute a vital step in allowing a country to flourish and progress and are eminently worthy of support by a strong rationale.

Six theories are outlined, and the benefits are considered, based on each theory's perspective. Further argument and discussion of possible outcomes from the perspective of these theories are also presented, in order to provide a strong ground for achieving the ultimate objective: to open up government and enable accessibility for the use and reuse of government information.

## 3.2 SOCIAL JUSTICE THEORY

Open Government strategies provide the means for harnessing data and information for the betterment of the society while, at the same time, implementing the principles of justice and fairness.

Social Justice Theory supports the view that a wide range of benefits accrues to a society and to the country in general when principles of 'open government' are introduced. This theory was proposed by John Rawls in 'A Theory of Justice', based on three main principles: the equal liberties principle, the equal opportunity principle, and the difference principle.<sup>284</sup> Rawls argued that to set up the basis of social justice, all three principles must be attained, which requires a fair distribution of all social

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<sup>284</sup> Rawls, John, *A theory of justice* (Belknap Press, 1999); Scanlon, Thomas M, 'Rawls' theory of justice' (1973) 121(5) *University of Pennsylvania Law Review* 1020.

opportunities to all individuals.<sup>285</sup> He stressed that inequalities had to be tackled and dealt with, so that fairness can be accomplished. This has to apply both to the most advantaged and to the least advantaged people in the society, regardless of any factors that could differentiate or detract from the goal of fairness, such as literacy or the digital divide. Basically, all members of the society ought to be equal in accessing the various opportunities available in the country.<sup>286</sup>

David Miller's 'Principles of Social Justice'<sup>287</sup> also advances this theory. Miller not only supported and argued for the fair distribution of public benefits and opportunities to all members of the society, but also elaborated on how those benefits should be distributed, based on the principles of equality.<sup>288</sup> Miller asserted that access to data and information is one of the major benefits that needs to be disseminated fairly, and practiced equally in society.<sup>289</sup> He argued that any discrepancy or disparity in providing fair access would be reflected in a diminished capacity of the least privileged groups, those with low or no access to the Internet, to interact in society. That unfairness would impede the less advantaged individuals from contributing to the overall public outcome.<sup>290</sup> This digital divide could cause the disparity in access to knowledge opportunities to worsen, while the most privileged sectors of society would be further advantaged.

Both Rawls and Miller argue that equal, unified, and fair access to information on the part of all individuals in society would have a direct positive impact on the functioning of each individual and, consequently, on the overall performance of the country. Many scholars point to a strong link between open access to knowledge and social justice. For example, Schiltz et al. emphasize the link between dissemination of public information and implementing social justice measures. They refer to the proportional relationship between the two, and they advocate fair access to government information as a way of achieving social justice.<sup>291</sup> Cribb and Sari assert

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<sup>285</sup> Thomas M Scanlon, 'Rawls' theory of justice' (1973) 121(5) *University of Pennsylvania Law Review* 1020284.

<sup>286</sup> Rawls above n 278.

<sup>287</sup> David Miller, *Principles of social justice* (Harvard University Press, 1999).

<sup>288</sup> Hashim, above n 124.

<sup>289</sup> Allan Scherlen and Matthew Robinson, 'Open access to criminal justice scholarship: A matter of social justice' (2008) 19(1) *Journal of Criminal Justice Education* 54.

<sup>290</sup> Miller, above n 287.

<sup>291</sup> Michael Schiltz, Gert Verschraegen and Stefano Magnolo, 'Open Access to Knowledge in World Society?' (2005) 11(2) *Soziale Systeme* 346.

that denying members of the public access to government information would leave them powerless and exclude them from the development cycle. They argue that anti-openness strategies not only deprive people of the benefits of being able to access information, but would also leave them out of the loop of all plans for reform.<sup>292</sup> The success of such plans is contingent upon people's participation and collaboration in them. If some sections of society have not been given the chance to participate, the proposed plans will be destined to failure.

Mattaini also considers the ability to access government information to be an issue of social justice. He argues that accessing government data is linked to tackling many major social issues and concerns that are key factors in attaining social justice.<sup>293</sup> His vision accords with that of Das,<sup>294</sup> who also links open access to data and information to the principles of social justice, especially in the information era. Das argues that providing free and fair access to the flow of information for all members of the community is vital in combating the existing digital divide. He argues that this type of activity is an important driver towards bridging the long-standing gap between the privileged and the non-privileged levels of society.

Other scholars point out the close link between openness and the implementation of social justice. Balkin argues that fair access to government information is a criterion for implementing justice amongst and within different countries and societies.<sup>295</sup> He argues that open access is strongly linked to basic principles of human freedom, pointing out that it has a direct impact on human development by providing the public with the required means of acquiring and disseminating information.

Britz introduces the term of 'information poverty' to refer to poor or low access to government information.<sup>296</sup> He too stresses that the existence of this form of poverty has an adverse impact on social justice. Britz argues that this poverty

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<sup>292</sup> Julian Cribb and Tjempaka Sari, *Open science: sharing knowledge in the global century* (CSIRO PUBLISHING, 2010).

<sup>293</sup> Mark A Mattaini, 'Open Access Journals as a Justice Issue' (2004) 13(1) *Behavior and Social Issues*.

<sup>294</sup> Anup Kumar Das, 'Open access to knowledge and information: Scholarly literature and digital library initiatives-the South Asian scenario' (2008).

<sup>295</sup> Peter Drahos, 'Access to knowledge: time for a treaty' (2005) 9(4) *Bridges* 16.

<sup>296</sup> Johannes J Britz, 'To know or not to know: a moral reflection on information poverty' (2004) 30(3) *Journal of Information Science* 192.

could be dealt with by ensuring that each member of society has an equal and fair right to access available government information and, consequently, to enjoy the benefits and the potential of this information. He argues that along with enabling access by means of a reliable ICT infrastructure, all the offered data should be affordable and available in a timely way.<sup>297</sup> Poschl agrees that open access can reform knowledge inequality, if all are equally able to access government data and information.<sup>298</sup> He claims that open government is an instrument for combating information poverty in the new societies of the information age.

### 3.3 HUMAN RIGHTS THEORY

The basic right to know, access, and communicate any piece of information, however small, is a fundamental to human rights theory. The vital right to know is the cornerstone of freedom of information, since it works as an enabler, simulator, and motivator of a well-informed society. In its inaugural session in 1946, the United Nations General Assembly declared that freedom of information was a fundamental human right, and the real touchstone of all the freedoms that the United Nations was established to protect.<sup>299</sup> Article 19 of the United Nations Universal Declaration of Human Rights acknowledges the fundamental right of the individual to receive and distribute information.<sup>300</sup> The Civil Society Declaration on Information Technology in 2002 spoke of the right of every individual in a society to receive, participate in and exchange data and information by any medium in order to enjoy the benefits of the information society. It declared that no one should be excluded from exercising this basic right.<sup>301</sup>

Many scholars emphasize the importance of openness in government and highlight the importance of enabling accessibility as a basic human right. Mendel, in his research on free access to information, confirms that the right to access government-held information has attracted a great deal of attention at various levels

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<sup>297</sup> Ibid.

<sup>298</sup> Hashim, above n 124.

<sup>299</sup> Toby Mendel, 'Freedom of information as an internationally protected human right' (2003) 1 *Comparative Media Law Journal* 39.

<sup>300</sup> Johannes Morsink, *The Universal Declaration of Human Rights: origins, drafting, and intent* (University of Pennsylvania Press, 1999).

<sup>301</sup> Marc Raboy, 'The World Summit on the Information Society and its legacy for global governance' (2004) 66(3-4) *Gazette* 225; Marc Raboy and Normand Landry, *Civil society, communication and global governance: Issues from the World Summit on the Information Society* (Peter Lang, 2005).



of government in recent years, indicating a desire to extend fundamental human rights and to underpin and support democracy.<sup>302</sup> Willinsky argues that people have the right to know, as open access is a vital part of the fundamental human right to strengthen public engagement and participation in societal development in any country.<sup>303</sup> Malcolm, argues that as many stakeholders in society as possible must be able to access information, since this will further promote democracy and strengthen and establish human rights.<sup>304</sup>

The interest in implementing openness is no less in the government sector. The Inter-American Human Rights Court considers accessibility to government information to be a pre-requisite for the creation of a free society. It deems any society that is not well informed due to the lack of such a right to be incomplete in terms of its freedom.<sup>305</sup> It further acknowledges that it is a fundamental human right to access and impart government information without any restrictions whatsoever. Likewise, the EU Ministers' Declaration on Human Rights in information societies affirms, not only that openness will spur broader dissemination of data and information in many aspects of life (socially, culturally and economically), but also that it can be used as a strong means of attaining an inclusive society and inhibiting any form of discriminatory action.<sup>306</sup>

According to human rights theory, enabling openness and setting up Open Government, with accessibility privileges granted and guaranteed to all stakeholders, would lead to a more inclusive and well-informed country. In the current information age, with many countries competing to harness their data and information to create a competitive advantage in the new globalised world, Open Government could promote the overall quality of life, and establish access to information as one of the most significant human rights.

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<sup>302</sup> Mendel, above n 299.

<sup>303</sup> Willinsky, above n 154.

<sup>304</sup> Hashim, above n 124.

<sup>305</sup> Carolina Almeida A Rossini, 'The open access movement: opportunities and challenges for developing countries: let them live in interesting times' (2007) *Proceedings of the Diplo Foundation Internet Governance Program*.

<sup>306</sup> Alastair Mowbray, 'The Interlaken Declaration—The Beginning of a New Era for the European Court of Human Rights?' (2010) 10(3) *Human Rights Law Review* 519.

### 3.4 KNOWLEDGE GAP THEORY

A body of work that needs to be considered when advocating for better and stronger access to government information for all members of society is what is referred to as Knowledge Gap theory.

Tichenor, Donohue and Olien proposed the Knowledge Gap theory at the University of Minnesota in 1970. They argued that the increase of information in the society, is not evenly, acquired by each and every member of the society. This in turn increases the pre-existing Knowledge Gap.<sup>307</sup>

People from more advantaged socioeconomic backgrounds tend to have a higher capacity to acquire information, whereas the capacity of those from disadvantaged socioeconomic backgrounds tends to be correspondingly diminished. This eventually leads to a division of the society to two groups: a group of better-educated people who know more about current political and civic events and another group with low education levels, who receive less information. The latter group seems to be completely or substantially deprived of knowledge about public affairs and other important issues, vital discoveries, and other major events. Eventually, those groups of people will be broadly disconnected from current events, let alone from participating in decisions that affect them.<sup>308</sup>

The Knowledge Gap can result in an increased division between the people of different socioeconomic status. People from all strata can be severely affected and adversely impacted if proper measures are not taken to achieve fairer and equal access to government data and information by all, regardless of their socioeconomic status. If information is not equally disseminated, the Knowledge Gap will increase and the consequences are exacerbated over time.<sup>309</sup>

The emergence of ICTs such as Web 2.0 can play a major role in reducing the knowledge gaps. Corley and Scheufele argue that Web 2.0 can be used as a tool to build a more informed citizenry. They claim, however, that without the existence of

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<sup>307</sup> George A Donohue, Phillip J Tichenor and Clarice N Olien, 'Mass Media and the Knowledge Gap A Hypothesis Reconsidered' (1975) 2(1) *Communication Research* 3.

<sup>308</sup> Elfreda A Chatman and Victoria EM Pendleton, 'Knowledge gap, information-seeking and the poor' (1995) 23(49-50) *The Reference Librarian* 135; Theorieënoverzicht TCW, *Knowledge Gap* <[http://www.utwente.nl/cw/theorieenoverzicht/Theory%20clusters/Mass%20Media/knowledge\\_gap.doc/](http://www.utwente.nl/cw/theorieenoverzicht/Theory%20clusters/Mass%20Media/knowledge_gap.doc/)>.

<sup>309</sup> Donohue, Tichenor and Olien, above n 307.

information and data — the content to be disseminated — Web 2.0 will not help.<sup>310</sup> They conclude that efforts must be made to ensure the required information is provided in order for Web 2.0 technologies to prosper, and for the lower socioeconomic sections of the society to receive the same information as their counterparts, thereby closing the existing knowledge gap.

### 3.5 ECONOMIC THEORY

There are two main economic theories related to enabling access for the use and reuse of government information, both of which are inspired by Schumpeter's theory of innovation and economic development.<sup>311</sup> The first of the two theories, known as Evolutionary Economic Theory,<sup>312</sup> emphasizes that knowledge is the main source of economic growth. It considers that knowledge is the basis for any technological development to be attained for the sake of increasing, and enhancing the productivity of capital and labor. The Evolutionary Economic Theory posits that the growth of knowledge in any society is a cornerstone for its development and progress, as it forms the building blocks of any proposed economic strategy. Modern economic growth is basically dependent on the availability of more useful stocks of beneficial knowledge. According to this theory, the nation's wealth and economic growth increase in proportion to its knowledge growth.<sup>313</sup> Evolutionary economists<sup>314</sup> assert that, after knowledge is initially produced, it progresses and develops by being reproduced through interaction and by collaboration between a range of individuals and firms.<sup>315</sup> Thus, open government would enable further freedom and accessibility for such diffusion and interaction, for knowledge to be reproduced, for the economy to develop, and consequently for societies to progress.

The second theory, New Growth Theory, is directly related to openness and Open Government. It addresses the role of knowledge and technology in driving and

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<sup>310</sup> Michael A Cacciatore, Dietram A Scheufele and Elizabeth A Corley, 'From enabling technology to applications: the evolution of risk perceptions about nanotechnology' (2011) 20(3) *Public Understanding of Science* 385.

<sup>311</sup> Fulvio Castellacci, 'Evolutionary and new growth theories. Are they converging?' (2007) 21(3) *Journal of Economic Surveys* 585.

<sup>312</sup> Jan G Lambooy, 'Knowledge and urban economic development: an evolutionary perspective' (2002) 39(5-6) *Urban Studies* 1019.

<sup>313</sup> Hashim, above n 124.

<sup>314</sup> Kurt Dopfer and Jason Potts, 'Evolutionary realism: a new ontology for economics' (2004) 11(2) *Journal of Economic Methodology* 195.

<sup>315</sup> *Ibid.*

motivating productivity in the new knowledge-based economies.<sup>316</sup> According to this theory, knowledge is the raw material for economic growth, especially in view of recent developments in knowledge-based economies. It considers that, not only advances in knowledge, but also knowledge distribution channels, are essential for attaining economic performance. The concept of the Network Economy, which represents the distribution channels of both formal and informal knowledge, has evolved in the last two decades. Knowledge is seen as the backbone of network growth, where data and information are produced, saved, processed, distributed, and shared by all. Knowledge is distributed and accessed by all and for the sake of all, and is no longer centralized or held by just one entity.<sup>317</sup> Openness and open access play a major role in creating new opportunities in the Network Economy.<sup>318</sup>

In competitive, knowledge-based economies, resources that have been expended to produce government data and information will be wasted if these are not utilized and transformed into economic values and converted to real economic figures to produce overall advancement.<sup>319</sup> Basically, data are power, as they are considered the digital fuel for the twenty-first century.<sup>320</sup> Nelson claims that for the economy to attain its maximum efficiency, all available data and information should be shared in a public pool, where all the interested stakeholders can have free and open access to it.<sup>321</sup> Research suggests that many of the openly available data sets and much of the information can be used in innovative ways that go beyond the limits of their initial creation. This would result in added productivity, and an increase in value of the available data and information. This is why many scholars recommend that openness should be embraced as the default rule rather than the exception, in administering or manipulating government data.<sup>322</sup> Openness in government and open data are considered the cornerstone for enhancing the potential of the government itself to seek new horizons in economic development.

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<sup>316</sup> Jeroen PJ De Jong et al, 'Innovation in service firms explored: what, how and why' (2003) *EIM Business Policy Research, Strategic Study B200205* 18.

<sup>317</sup> Hashim, above n 124.

<sup>318</sup> Daniel L Rubinfeld and Hal J Singer, 'Open Access to Broadband Networks: A Case Study of the AOL/Time Warner Merger' (2001) 16 *Berk. Tech. LJ* 631.

<sup>319</sup> Hashim, above n 124.

<sup>320</sup> Vivek Kundra, *Digital Fuel of the 21st Century: Innovation through Open Data and the Network Effect* (Joan Shorenstein Center on the Press, Politics and Public Policy, 2012).

<sup>321</sup> Rebecca S Eisenberg, 'Patents and data-sharing in public science' (2006) 15(6) *Industrial and Corporate Change* 1013.

<sup>322</sup> Hashim, above n 124; Robinson et al, above n 157; Pierson, above n 269.

In the age of knowledge-based economies, a growing number of organizations worldwide demand openness and consider it a tool for achieving further economic development and progress. The OECD, in its knowledge-based economy report, urged all governments to embrace collaboration and enable interaction in their data policies.<sup>323</sup> Governments, along with their stakeholders, must prioritize the diffusion of their data and information in order to make it more usable. The Council of the European Union recommends that all its member states remove barriers that impede the accessibility of government data and information.<sup>324</sup> Lately, the World Bank has implemented a significant decision to open up its data sets to the public, and has made more than 7000 data sets publicly accessible. These data sets were previously available to only 140,000 subscribers. This suggests that the most valuable currency of the organization is actually its information, and not just its financial resources.<sup>325</sup>

From the viewpoint of both Evolutionary Economic theory and the New Growth theory, openness and Open Government are very significant factors in the pursuit of economic development. As more economies move towards becoming knowledge-based economies, open access to government data and information is gaining increased attention.<sup>326</sup> Collaboration, interaction, and integration are emerging as essential factors in the further growth of knowledge, which will be reflected in economic development. These aspects are as important as the knowledge itself. Thus, providing the proper environment for different stakeholders to have free access to information, and to interact and work together to diffuse that knowledge, would not only add to the stocks of beneficial knowledge, but would increase the public value of the existing government data and information.

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<sup>323</sup> Organisation for Economic Co-operation and Development, *OECD Principles and Guidelines for Access to Research Data from Public Funding* (OECD Pub., 2007).

<sup>324</sup> Maurits Van der Graaf, 'DRIVER: Seven Items on a European Agenda for Digital Repositories' (2007) 52 *Ariadne*.

<sup>325</sup> Stephanie Strom, *World Bank is Opening its Treasure Chest of Data* <[http://www.nytimes.com/2011/07/03/business/global/03world.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2011/07/03/business/global/03world.html?pagewanted=all&_r=0)>.

<sup>326</sup> Mike Cowey, 'Knowledge economy—fact or fad' (2000) 47(4) *New Zealand Management* 54; Schiltz, Verschraegen and Magnolo, above n 291.

### 3.6 INNOVATION THEORY

Innovation theory is based on the notion of converting existing available data and information into ideas that can improve how people live or work.<sup>327</sup> To realize this theory, there are two things that must exist at the preliminary stage: the problem that needs to be tackled, and all the available data and information relating to it. So, innovation theory implies that any innovation will only exist on the foundation of pre-defined information, as the innovation will make use of such information and be built upon it. This interlinked relationship exists in and applies to all aspects of knowledge, whether in technological, biological, psychological or creative and humanities fields.<sup>328</sup>

It is well acknowledged that innovation is nothing but the result of the analysis, application and implementation of previously available information. So, providing fair and free access to the wealth of available data sets and information in government ‘silos’ is imperative to enable new knowledge to be produced. Better use of existing data, more efficient ways of distributing data between innovators, and free access to the required data sets are all factors that could promote innovation. Consequently, providing openness in government is as important as innovation itself, since any new creative idea is conditioned by the existence of all available knowledge from the past related to that idea.<sup>329</sup> Making data freely available and accessible is not a goal by itself; rather it is one of the tools for motivating and boosting further innovation.<sup>330</sup> Under the Open Government concept, access to a wealth of information is seen as one of the main building blocks for further

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<sup>327</sup> Tracey P Lauriault and Hugh McGuire, 'Data Access in Canada: civicaccess. ca' (2008) (February 2008) *Open Source Business Resource* ; Dru Lavigne, 'Editorial: Open Data (February 2008)' (2008) (February 2008) *Open Source Business Resource* ; Brian Fitzgerald, 'WEB 2.0 Landscape—Access and Reuse as a Driver of Innovation “Efficiency, Quality and Impact”' ; Brian F Fitzgerald, *Access to public sector information: law, technology and policy* (Sydney University Press, 2010).

<sup>328</sup> Seth Shulman, 'Trouble on “The Endless Frontier”' (2002).

<sup>329</sup> Kundra, above n 310; R Esalimba and W New, *Spurring Local Innovation in Africa By Improving Access to Information* Intellectual Property Watch <<http://www.ip-watch.org/2009/10/19/spurring-local-innovation-in-africa-by-improving-access-to-information/>>.

<sup>330</sup> Anne M Fitzgerald, Mohamad Hashim and Haswira Nor Hashim, 'Enabling access to and re-use of publicly funded research data as Open Educational Resources: a strategy for overcoming the legal barriers to data access and re-use' (2012).

advancement and prosperity in a country, as it is considered one of the main keys to further discovery, innovation and fresh inventions.<sup>331</sup>

Knowledge-based societies, innovation has shifted from the old, closed innovation model under which innovators relied primarily on their own ideas to a new innovation model that is based on openness. In that new model, innovators utilize others' ideas as well their own in a more collaborative and interactive way than previously.<sup>332</sup> Based on the new approach, innovators use a wider range of sources, actors, and suppliers to help them achieve their goals. Innovators no longer limit themselves to their own ideas or convictions, but seek more interaction and collaboration with others to develop their inventions. An open government that allows greater access to information is a prerequisite in this new, open model of innovation.<sup>333</sup> Collaboration with the outside world, with input from previous information and data sets, is as important as the perspectives and perceptions of the individual innovators.

Many scholars point to the strong link between open access to knowledge, and the existence of innovation in a country. Uhlir and Schroder claim that overprotection of government data and information in locked government 'silos' may result in slowing the innovation cycle, which in turn will slow scientific progress.<sup>334</sup> They assert that for the innovation cycle to progress and flourish, the innovation system must not be considered closed, since in many respects openness is required to cater for dynamic innovation. Open data and accessible information in a collaboratively supported environment jointly facilitate an open innovation system.<sup>335</sup> Drahos supports an open government data model that is based on maximizing public participation in the innovation process. He argues that in order to gain the maximum benefit from their internal data, governments should give priority to increasing its accessibility, as well as to minimizing the costs involved. Other

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<sup>331</sup> Dominique Foray, 'Introductory Remarks by Session Chair' (Paper presented at the Open Access and the Public Domain in Digital Data and Information for Science: Proceedings of an International Symposium, 2004).

<sup>332</sup> Keld Laursen and Ammon Salter, 'Open for innovation: the role of openness in explaining innovation performance among UK manufacturing firms' (2006) 27(2) *Strategic management journal* 131; Kenneth Munsch, 'Open model innovation' (2009) 52(3) *Research-Technology Management* 48.

<sup>333</sup> Munsch, above n 332.

<sup>334</sup> Paul F Uhlir and Peter Schröder, 'Open data for global science' (2007) 6 *Data Science Journal* OD36.

<sup>335</sup> James Utterback, 'The dynamics of innovation' (2004) 39 *Educause Review* 42.

researchers, such as Olsen, Norris and Olaisen, assert that a new wave of innovations could be unleashed if greater openness is embraced in regard to government data and information.<sup>336</sup> They stress that the key is open data.

Brown et al justified making raw government data accessible by arguing that this would allow scientists to collaborate on developing new techniques, tools and methods that would make the overall outcome much greater than the sum of their individual contributions.<sup>337</sup> They give the example of enabling free accessibility to use and reuse of genetic data to scientists, who were able to work collaboratively and exploit that data and transform it to a richer and better genetic sequence. This result would not had been possible if those scientists did not have open access to the information, and if they had not been working collaboratively.<sup>338</sup>

From the Australian perspective, more than one scholar has favored an Open Access strategy as a way forward to promote a more innovative society.<sup>339</sup> Cutler, an innovation expert argues that innovation requires and demands an Open Access to information. He points out that Open Access implies the freedom to access prior information and knowledge, to create new insights or new ideas. Thus, that freedom is essential to enable creativity.<sup>340</sup> The former Innovation Minister, Kim Carr, backed Cutler's argument, emphasizing that in order to stimulate innovation; Australia should provide full access to its data and information for the general public to use freely.<sup>341</sup> In a report to the Australian Department of Education, Science and Training, Houghton, Steele and Sheehan also supported open data implementations to foster innovation. They argued that without openness, government data and information would remain in the custody of a few, and so would remain under-

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<sup>336</sup> Ray P Norris, 'How to Make the Dream Come True: The Astronomers' Data Manifesto' (2007) 6 *Data Science Journal* S116.

<sup>337</sup> Patrick O Brown, Michael B Eisen and Harold E Varmus, 'Why PLoS became a publisher' (2003) 1(1) *PLoS biology* e36.

<sup>338</sup> Ibid.

<sup>339</sup> Anne M Fitzgerald, 'Policies and principles on access to and reuse of public sector information: a review of the literature in Australia and selected jurisdictions ' (2008) 1.0 *Policies and principles on access to and reuse of public sector information: a review of the literature in Australia and selected jurisdictions*

<sup>340</sup> Cutler, above n 126.

<sup>341</sup> Bernard Lane, 'Carr Favours Open Access' (2008) 24 *The Australian (online)*



utilized.<sup>342</sup> They emphasized that wider access to publicly funded government data and information would lead to the exploration of new domains of information not anticipated by the initial investigators. This would facilitate the creation of new data sets out of the combination of various information sources.<sup>343</sup>

From the organizations' perspective, many bodies support openness and free accessibility to government data and information. A prominent supporter is the Council of the European Union, which believes that dissemination of data and information would accelerate innovation.<sup>344</sup> The OECD, in its 2010 guidelines report for accessing data, argues that the diffusion of new data sets and information is as significant and important to innovation as knowledge creation itself.<sup>345</sup> Moreover, the report states that much of the essential information needed for innovation comes from government organizations. The OECD also asserts that open access accelerates scientific inquiry, encourages diversity, increases diversity of opinion, and helps develop new schools of thought. The OECD believes that innovation in the current age requires a high degree of interaction, collaboration, and integration between many actors of different backgrounds.<sup>346</sup> The same report argues that, since interacting innovators come from different levels of society, empowering them with an efficient flow of data and information in an open access environment is a must to promote innovation and spur change.

The OECD's 2010 Ministerial Report on Innovation Strategy (*Innovation to strengthen growth and address global and social challenges*) emphasized that government data must remain openly accessible to promote further innovative ideas and recommend the OECD member countries increase the online accessibility of government data and information.<sup>347</sup> The OECD considers innovation to be the main driver of economic growth. Hence the consensus among OECD officials to embrace an open access model by endorsing a joint declaration to support the public's right to

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<sup>342</sup> John W Houghton, Colin Steele and Peter Sheehan, *Research communication costs in australia, emerging opportunities and benefits* (Centre for Strategic Economic Studies, Victoria University, 2006).

<sup>343</sup> Ibid.

<sup>344</sup> European Commission, *Council Conclusions on scientific information in the digital age: access, dissemination and preservation*

<[http://www.consilium.europa.eu/ueDocs/cms\\_Data/docs/pressData/en/intm/97236.pdf](http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/97236.pdf)>.

<sup>345</sup> Organisation for Economic Co-operation and Development, above n 323.

<sup>346</sup> Ibid.

<sup>347</sup> Ibid.

access, use, and reuse government data and information.<sup>348</sup> The declaration reaffirms that this right would promote scientific progress and innovation, which in turn would lead to the advancement of its OECD member countries. In this way, the OECD shifted its emphasis from direct promotion of innovation and research to removal of impediments that could act as barriers to the flow of data and information.<sup>349</sup>

Users of government data and information who come up with inventions by reutilizing available data play a double role: they use existing knowledge, and they create new forms of data that did not exist before. This kind of activity is called ‘grassroots’ innovation.<sup>350</sup> The Open Government vision allows the use and reuse of data by laypersons and high profile, innovative companies at the same level, with fair access to all. Thus, in a grassroots innovation, the diffusion of government data and information is as vital as its creation.<sup>351</sup> Enabling Open Access for all stakeholders has a direct and positive impact on a country, as it minimizes the government monopoly over public data, while simultaneously stimulating the creation of new data sets.<sup>352</sup> The open environment enables innovative ideas to arise collaboratively and to add value to the existing body of knowledge in ways that were not previously thought of. The usability and implementation potential of available data and information thereby extend beyond original expectations.<sup>353</sup>

In summary, providing Open Access to government ‘silos’ containing huge amounts of data and information for the use of the general public is a beneficial step for the advancement of innovation in particular and for the betterment and reform of a country in general. Innovation can seldom occur in isolation, as it often requires interaction with a wide range of outside factors. Innovation is dependent on astute usage of information from past generations. So to spur innovative ideas in a country, its hidden prior data sets and information have to be widely shared and distributed, as

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<sup>348</sup> Rustam Lalkaka, 'Technology business incubators to help build an innovation-based economy' (2002) 3(2) *Journal of Change Management* 167.

<sup>349</sup> Simon Marginson, 'Open source knowledge and university rankings' (2009) 96(1) *Thesis Eleven* 9

<sup>350</sup> John Teresko, 'Open innovation? Rewards and challenges' (2004) *Industry week Cleveland Ohio* 20; Henry W Chesbrough, 'The era of open innovation' (2006) 127(3) *Managing innovation and change* 34.

<sup>351</sup> Chesbrough, above n 350.

<sup>352</sup> Leslie Chan, 'Supporting and Enhancing Scholarship in the Digital Age: The Role of Open Access Institutional Repository' (2004) 29(3) *Canadian Journal of Communication*.

<sup>353</sup> Anne M Fitzgerald et al, 'Building the infrastructure for data access and reuse in collaborative research: An analysis of the legal context' (2007).

abundant information creates a pro-innovation force.<sup>354</sup> This effect is succinctly captured in the famous statement attributed to Sir Isaac Newton, in which he humbly says, ‘If I have seen further, it is by standing on the shoulders of giants.’

### 3.7 PUBLIC GOOD THEORY

The benefits of an open data environment, under public good theory, can be analysed by reference to the theory’s two main features: non-rivalrous consumption, and non-excludability.<sup>355</sup> The first feature implies that there is absolutely no extra cost generated by increasing the number of beneficiaries of open government data and information, while the second feature means that no single user in a society should be excluded from enjoying the privilege of accessibility.

Both features of the public good theory apply to the wealth of government information created using public funds. Government data and information offer a universal benefit, including for future generations.<sup>356</sup> So, the benefit extracted from the massive amount of government data and information is considered to be a global public good. Clearly, then, access to this data and information, and their distribution, diffusion, and dissemination throughout the population, is very important. To maintain and expand the public good benefits of public data and information, there must be a balance between providing accessibility to all data and information, and the production and diffusion of new data sets in the open data environment.<sup>357</sup>

The medical field offers strong evidence of the benefits of open access to the public good. With open access, patients can find medical information freely and easily.<sup>358</sup> For example, Medline Plus is an initiative developed by the United States National Library of Medicine to harness available medical information for the benefit of the ordinary citizen in particular, and to increase medical awareness in the country at large.<sup>359</sup> Another example is the collaboration of various groups from American academia, industry, non-profit organisations, and professions to share medical data

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<sup>354</sup> Hashim, above n 124.

<sup>355</sup> Joseph E Stiglitz, 'Knowledge as a global public good' (1999) 1(9) *Global public goods* 308.

<sup>356</sup> Inge Kaul, Isabelle Grunberg and Marc A Stern, 'Defining global public goods' (1999) *Global public goods: international cooperation in the 21st century* 2.

<sup>357</sup> Stiglitz, above n 355.

<sup>358</sup> Hashim, above n 124.

<sup>359</sup> Naomi Miller, Eve-Marie Lacroix and Joyce EB Backus, 'MEDLINEplus: building and maintaining the National Library of Medicine's consumer health Web service' (2000) 88(1) *Bulletin of the Medical Library Association* 11.

and information in a study that led to a significant breakthrough in the understanding of Alzheimer's disease.<sup>360</sup>

Many scholars have pointed to the real public good that lies in the government's sharing of its huge inventory of data sets and information. They highlight the risks associated with allowing this data to remain, or become, a monopoly, rather than being open to all. Such a monopoly could be devastating. For example, if the use and reuse of public data and information were restricted to an exclusive group, it would deprive other individuals (such as students, doctors, patients, professionals, academicians, engineers, scientists, workers, activists, administrators or policy developers) who could use that data efficiently for the betterment of all to create advances in knowledge.

Carol Rose, of the University of Chicago, argued that there should be no exclusive rights over government data and information, as it must be openly available to the public.<sup>361</sup> Lievesley asserts that government data is a real public good, and that, for a variety of reasons, it should be open to everyone.<sup>362</sup> A decade ago, Samuelson already recognized a growing need to develop a new information policy that regarded information as a real source of public good, whether in learning, innovation, culture or any other aspect of life.<sup>363</sup>

Boyd and Crawford point to the fact that many categories of knowledge professionals are now seeking greater access to government data and information. Economists, politicians, mathematicians and sociologists are all demanding greater access to the data inventory. Boyd and Crawford also claim that minimizing or diminishing the rights exclusions applying to those data sets, and making them freely available, would be beneficial to the nation, as it would enable the individual data user to optimize and harness public data for the public good.<sup>364</sup>

There is a huge potential benefit to the public if a society embraces proper practices of openness and open accessibility to use and reuse the government data inventory.

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<sup>360</sup> Gina Kolata, 'Sharing of data leads to progress on Alzheimer's' (2010) 12 *New York Times*.

<sup>361</sup> Carol Rose, 'The comedy of the commons: custom, commerce, and inherently public property' (1986) *The University of Chicago Law Review* 711.

<sup>362</sup> Lievesley, above n 173.

<sup>363</sup> Pamela Samuelson, 'Mapping the digital public domain: Threats and opportunities' (2003) 66(1/2) *Law and Contemporary Problems* 147.

<sup>364</sup> Melvin Kranzberg and Geoffrey Bowker, 'Six provocations for big data' (2011)

Government data and information are a public good, which should be in the public domain.<sup>365</sup> For the potential benefits to be realised, access to government information and data sets and the right to use and reuse them must be available fairly to all people and not restricted — for whatever reason — to the exclusive use of a select few.<sup>366</sup>

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<sup>365</sup> Lievesley, above n ; Kundra, above n 320.

<sup>366</sup> Nicolas Dittert, Michael Diepenbroek and Hannes Grobe, 'Scientific data must be made available to all' (2001) 414(6862) *Nature* 393.

## Chapter 4: Open Government in Developed Countries

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### 4.1 OVERVIEW

This chapter explores Open Government initiatives around the world, and specifically in developed countries such as the United Kingdom, and the United States. The investigation is not limited to Open Government, but also covers different implementations of Web 2.0 applications and technologies aimed at maximising the benefits of the available public data for the common good.

The use of pervasive and intuitive Web 2.0 technologies and applications throughout the developed world has affected the lives of ordinary citizens in many ways. It has enhanced the value of the available free and machine-readable public data to levels, domains, and usage rates that the original creators may not have foreseen. This has resulted in an increasing demand, and escalating trend in developed countries to increase the availability of public datasets, and enhance their accessibility, often by providing them free of charge and in a machine-readable format so they can be easily re-used. The United Kingdom's Minister for the Cabinet Office, Francis Maude, observes that 'citizens are demanding that the state should be their servant, not their master', and requesting stronger rights of access to government data and information.<sup>367</sup> He refers to the role that the latest technologies are playing in moving established bureaucracies towards more responsive and accountable government in the name of faster growth, better services, and reduced poverty and corruption.<sup>368</sup>

After significant OGD initiatives were launched in the United States from President Obama's first day in office on 21 of January 2009, many similar initiatives have been undertaken around the world. In September 2011, the Open Government Partnership (OGP) was launched as 'a global effort to make governments better'. Initially founded by a group of eight countries, more than 63 countries have now declared their commitment to join the OGP, and the figure is still growing. In

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<sup>367</sup> Cabinet Office, *Open Government Partnership UK National Action Plan 2013 to 2015* <[http://data.gov.uk/sites/default/files/library/20131031\\_ogp\\_uknationalactionplan.pdf](http://data.gov.uk/sites/default/files/library/20131031_ogp_uknationalactionplan.pdf)>.

<sup>368</sup> Ibid.

December 2011, the European Commission launched its OGD strategy, with an expectation that it will boost the EU's economy each year by €40 billion. This prompted Neelie Kroes, the Vice President of the European Commission, and the officer responsible for the Digital Agenda for Europe to describe OGD as the 'new oil'.<sup>369</sup>

This chapter introduces one of the main contributions of this thesis, the Open Government Data Success Model. This model has been developed in the context of lessons learnt from Open Government strategies in countries including the United Kingdom, and the United States of America, which have been the leaders in this field. Understanding the experience of these countries, and seeking to learn from them is important in formulating a roadmap for developing countries, seeking to reform their e-government systems in the pursuit for more open and, transparent government.

## 4.2 OPEN GOVERNMENT DATA SUCCESS MODEL

Based on an analysis of recent developments in Open Government in developed countries where the open government movement gained much of its momentum, this thesis proposes an Open Government Data Success Model (OGDSM).<sup>370</sup> The OGDSM comprises four main elements: -

1. Top Level Support and Leadership Commitment: It is the support of the top decision-makers of the country that, in the short run, promotes the development of OGD, and in the long run underpins its sustainability. Thus, it is crucial to the long-term sustainability of OGD.

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<sup>369</sup> Ibrahim Ahmed Elbadawi, 'The State of Open Government Data in GCC Countries' (Paper presented at the Proceedings of the 12th European Conference on e-Government, 2012).

<sup>370</sup> Becky Hogge, 'Open data study' (2010) *a report commissioned by the Transparency and Accountability Initiative*, available for download at: [http://www.soros.org/initiatives/information/focus/communication/articles\\_publications/publications/open-data-study-20100519](http://www.soros.org/initiatives/information/focus/communication/articles_publications/publications/open-data-study-20100519); Tim Davies and Practical Participation, *Open data, democracy and public sector reform: A look at open government data use from data.gov.uk* (Practical Participation, 2010); Osimo, above n 256; Lindmark, above n 184; John Sheridan and Jeni Tennison, 'Linking UK Government Data' (Paper presented at the LDOW, 2010); Osimo, above n 256; Becky Hogge, *Open data study New technologies* The Transparency and Accountability Initiative <[http://www.transparency-initiative.org/wp-content/uploads/2011/05/open\\_data\\_study\\_final1.pdf](http://www.transparency-initiative.org/wp-content/uploads/2011/05/open_data_study_final1.pdf)>.

2. **Building a Double-tier IT Capacity (civil society and government):** Civic engagement and public participation has to be cultivated, rather than taken for granted.
3. **Web 2.0 Involvement (Government 2.0):** New and emerging means of social communication that have gained huge uptake in the broader community, and have the potential to deepen the relations between government and citizens, they cannot be ignored by public sector organisations.
4. **Legal Infrastructure (FOI):** This refers to a legal foundation that entitles the general public to obtain access to data, while preserving the government's rights to own and manage its copyright interests.

The research analyses each of these elements, their significance and potential impacts. It is proposed that strengthening each of these factors would lead to better use and more sustainable implementation of OGD initiatives. The OGDSM and its elements are graphically depicted in the diagram in Figure 10 below.

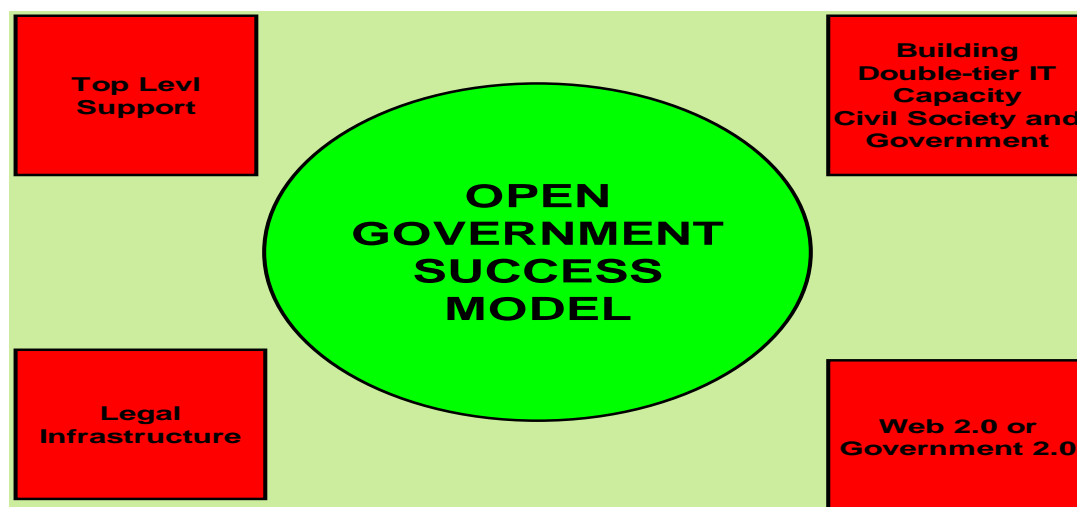


Figure 10: Open Government Data Success Model

Each of these elements, together with examples from developed countries, is considered in the following sections to illustrate how each contributes to an Open Government environment.



### 4.3 TOP LEVEL SUPPORT

This is the first element of the OGDSM, based on its criticality for the initiation of the Open Government strategies. Its importance is derived not only from the role it plays in initiating the process, but also from its role in sustaining the OGD movement. Identifying champions and top-level personnel who support the practice of opening up government and the free release of government information and data would encourage the general public to harness those datasets for the public good. Moreover, top-level support would encourage the public to develop new applications using government data and to trust the feedback system provided on government portals because they believe their voices and demands are being heard by top-level decision makers.

#### 4.3.1 United Kingdom

##### *Chronological background*

In the United Kingdom, the *Guardian* newspaper's Technology section started the 'Free Our Data' campaign in March 2006. The main idea behind the campaign was the basic right of taxpayers to have access to data collected by the government. The campaign pointed out that this data that had already been paid for by taxpayers, but when a taxpayer requested a copy of that data, they had to pay (an often significant amount) to gain access to it. The *Guardian* argued that a non-disclosure attitude prevailed in a number of government agencies, with adverse consequences for innovation, enterprise, and creativity, the three factors that are considered the lifeblood of new businesses. The *Guardian* stressed that the main aim of its campaign was to persuade the government to dismantle the copyright limitations on important national data, and consequently make it freely available to all.<sup>371</sup>

The campaign mainly targeted the huge amount of valuable raw mapping data collected by the Ordnance Survey, the UK's official mapping agency. The *Guardian*'s claims were based, in part, on the approach taken by the United States Geographical Survey (USGS), the Ordnance Survey's equivalent in the US. The USGS was operating on the basis that all data, collected initially with government funding, should be provided to the public free of charge. The *Guardian* also argued that the UK's closed attitude towards releasing public data would impede scientific

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<sup>371</sup> The *Guardian*, *Free Our Data: Articles: the Ordnance Survey official response* <<http://www.freeourdata.org.uk/ordnancereply.php>>.

research in various fields such as climate change, and would have an adverse impact on commercial opportunities. However, the Ordnance Survey claimed that the quality of available mapping data in US was of a low or variable standard, the USGS did not provide large-scale mapping data free of charge, and that whatever it did provide for free would be similar in quality to data that the Ordnance Survey also providing.<sup>372</sup>

The *Guardian's* investigation was not limited to the Ordnance Survey, but also addressed other government agencies – entities such as the United Kingdom Hydrographic Office, which collects data related to tides and naval navigation; the Highways Agency, which collects data related to traffic; and the European Centre for Medium Range Weather Forecasting, with its cross-Europe weather forecasts. The *Guardian's* main argument with regard to all of these government agencies and entities was that the government's role should not be limited to gathering and collecting high-quality raw datasets and administering them; rather, it should also strive to make such datasets available to the broader community in order to promote and enhance the creation of innovative services.

### ***Creation of the Power of Information Taskforce***

In 2007, Ed Mayo and Tom Steinberg (the director of mySociety, an international non-profit group aiming to promote civic engagement through digital means) published a joint review, 'The Power of Information'. The review set out the social and economic gains that government could achieve through making better use of available government data, and shed light on how much further the British government had to go in order to capitalise on the data it held. Their work was considered a major contribution to the growing worldwide recognition of the need for governments to adapt to a new global environment where most people used the Internet very regularly. As a result of that work, the then UK Cabinet Office Secretary Tom Watson created the Power of Information Taskforce in March 2008.

The task force comprised experts from government, industry, and the third-party sector as well. All the personnel involved in the taskforce team shared passion for using ICTs to enable better and more efficient public service delivery. The taskforce objectives focussed on assisting the government to deliver the expected

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<sup>372</sup> Ibid.

benefits by exploiting the new trends in digital media, and by the use of both government- and citizen-generated information in the United Kingdom.<sup>373</sup> The team operated in an open and transparent way, using digital media to examine information from both citizens and government, and reported its findings back to the Cabinet Office.<sup>374</sup>

The task force itself set an example by working to a large extent through Web 2.0 tools. Its members formed a web group for their internal communications, published their progress reports via a blog and RSS feed, and published their draft report as a wiki. The taskforce acknowledged that many public service projects at the time of its investigation were already based on Web 2.0 tools and technologies.

The group's final outcomes could be summarised as having successfully achieved the following tasks:<sup>375</sup>

- It held online competitions such as ShowUsAbetterWay, which demonstrated the huge latent potential for community and public engagement in the creation of innovative information-based applications.
- It elevated the profile of the power of information through engagement with the government, industry, and general public.
- It raised public awareness of the importance of accessing UK geospatial data and stimulated debate between the government and the public around that subject.
- It supported the development of guidance on use of social media by civil authorities, and conducted practical experiments in publishing government data using modern web publishing tools.
- It developed a new and better model for government website architecture based on the reuse of available government data.

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<sup>373</sup> Power of Information Task Force, *About the Taskforce*

<<http://powerofinformation.wordpress.com/about/>>.

<sup>374</sup> Ibid.

<sup>375</sup> Power of Information Task Force, *Power of Information Taskforce Report*

<<http://www.epractice.eu/files/Power%20of%20Information%20Taskforce%20Report.pdf>>.

- It built links with people around the world who were working to the same agenda for mutual benefit through the exchange of ideas and experiences.
- It initiated work on the new concept of a government information repository.

However, the taskforce asserted that British public servants were still a long way from exploiting the full potential of evolving Internet tools and technologies, and from bringing them into the mainstream of public service activity. In the pursuit of that goal, the taskforce came up with 25 recommendations and key actions that governments could take in the short to medium term in order to realise that latent potential.<sup>376</sup> The recommendations and key actions covered a wide spectrum within six main areas, as follows: -

- Enhancing digital Britain's online experience by making the assistance of online experts available wherever needed in the public sector.
- Increasing the quality and level of the government's consultation with its own people.
- Creating an environment in which better collaboration occurs between the government and both internal and external innovators.
- Building the capacity and enabling the UK's public sector to harness the opportunities offered by the evolving digital media.
- Freeing up the UK's address and mapping data so that they can be used for other new services.
- Ensuring that public sector information is being made available and at the same time that it is held in the simplest forms possible, so that the general public can readily use and reuse it.

The report emphasised the importance of helping the British people online and in the areas where they need extra help and involvement from government agencies, whenever and wherever they need it. It noted that people generally tend to jump online to seek help, so government bodies must not avoid this dominant and evolving forum. To strengthen its argument, the report pointed to the practice

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<sup>376</sup> Ibid.

of the United Kingdom's public broadcaster, the BBC, which had set a leading example, spurring innovation and creativity through its BBC Backstage initiative, which encouraged people to use the BBC's data and services in their own projects. Likewise, the taskforce recommended that the British Government should create a similar 'backstage' capability to help unlock the huge latent potential of the government's information. New methods of public consultation on government policies could also be developed based on the new, evolving digital communication technologies. Such methods had already been implemented in creating the report.<sup>377</sup>

As data and information are the lifeblood of the knowledge society and of any knowledge-based economy, the report emphasised the need to liberalise non-personal government information, claiming that this would provide a huge information stimulus if it were implemented properly. The taskforce referred specifically to the evident demand for the use and reuse of UK mapping and address data. The task force report supported recommendations for the Ordnance Survey to open up its information to the public in general, and innovators and particularly, to the non-government sector, and to adopt a more flexible licensing regime.

The report also shed light on the practice of the National Public Transport Data Repository (NPTDR), which it found charged the people significant fees for any use of its datasets. Again, the report emphasised that there should be an assumption that the data should be available for use and reuse by the public, especially if it was created or collected by public sector bodies. For that to happen, the taskforce recommended that public sector bodies embrace a new 'Crown Commons' copyright and licensing scheme that would be more transparent, clearer, and easier to understand and apply. The report suggested that these copyright and licensing rules would make it easier for public sector bodies to work with data originating from multiple sources in the public sector.<sup>378</sup> Implementing the recommended key actions and plans on the cataloguing of public sector information and government licensing rules and terms would result in more truthful usage of government data, since the liberalised scenario would not only facilitate retrieval of

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<sup>377</sup> Ibid.

<sup>378</sup> Wikipedia, 'Open Data in the United Kingdom' (2011)  
<[http://en.wikipedia.org/wiki/Open\\_Data\\_in\\_the\\_United\\_Kingdom](http://en.wikipedia.org/wiki/Open_Data_in_the_United_Kingdom)>.

the government data, but would also make the terms and conditions for the use of the data as open and as clear as possible.<sup>379</sup>

### *Leadership Commitment*

On 19 November 2009 the then British Prime Minister, Gordon Brown, announced that the public would have broader access to Ordnance Survey maps and geospatial data from the following year. Mid-scale digital mapping information would be available for use and reuse and, most importantly, the data would be available even for commercial use without the requesting party incurring any fees. According to the government press release, making the public data available would enable people and businesses to use it in a new, novel ways that had not been initially imagined. The government estimated that this step would generate as much as a million pounds for the United Kingdom's economy.<sup>380</sup>

Developers and innovators can use the available geospatial data along with other government data – related to health and education, for example – to create and develop novel services that generate social and economic value.<sup>381</sup> Providing citizens with the tools and means for demanding action on issues of greatest concern to them should result in their being more connected to their own community. Releasing council records in a reusable format, for example, would enable the public to know every detail about a council's activity, from its internal accounts, to the progress to date of its various projects; to their timelines and expected finish dates; to the next collection date for the garbage in a neighbourhood. This would lead to a more engaged and inclusive society, in which all citizens can play a role, not only to demand change from their government, but also to monitor its progress.

In pursuit of this goal, the British Government has since launched the data.gov.uk website, which holds a large volume of public sector information, from traffic statistics to crime figures, as well as a range of other government data.<sup>382</sup> All the information and datasets on the website can be used for private or commercial

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<sup>379</sup> Power of Information Task Force, above n 375.

<sup>380</sup> Open Knowledge Foundation, 'Ordnance Survey to open up UK geospatial data' (2009) <<http://blog.okfn.org/2009/11/19/ordnance-survey-to-open-up-uk-geospatial-data/>>.

<sup>381</sup> Ibid.

<sup>382</sup> UK Government, *Data.gov.uk* <<http://data.gov.uk/>>.

use, since the aim of the project is explicitly declared to be to ‘kick start a new wave of services that find novel ways to make use of the information’.<sup>383</sup>

Substantial social and economic gains could be accomplished by opening up the government wealth of data in an open format in the web. Government data covers all various aspects of government operations spanning from geographic, budget, health, and education to all other types of data and metadata. This disclosure attitude promises huge advancements in the current services provided by the government, as well as encouraging future economic growth.<sup>384</sup>

Consequently and as a result of continuous pressure to release data in a machine readable format from the public, and particularly vocal groups responsible of initiating and developing grassroots political engagement websites, in June 2009 the United Kingdom government announced that the inventor of the World Wide Web, Sir Tim Berners-Lee become an expert advisor to the government on OGD.<sup>385</sup> Sir Tim has called on all public data collecting groups around the world to release their raw data.

### ***The Launch of Official UK Data Portal***

In late 2009, a beta version of *data.gov.uk* was announced on an initiation-only basis. In January 2010, *data.gov.uk* was officially launched and introduced to the public domain on an initiation-only basis. This has been considered as a great victory for the open data community as it demonstrates the success of their consistent advocacy for opening up government data to the public. Since then, the UK has released more open data sets, with many thousands of open data files now available on *data.gov.uk*.

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<sup>383</sup> Wikipedia, above n 378.

<sup>384</sup> Sheridan and Tennison, above n 360.

<sup>385</sup> Hogge, above n 370.

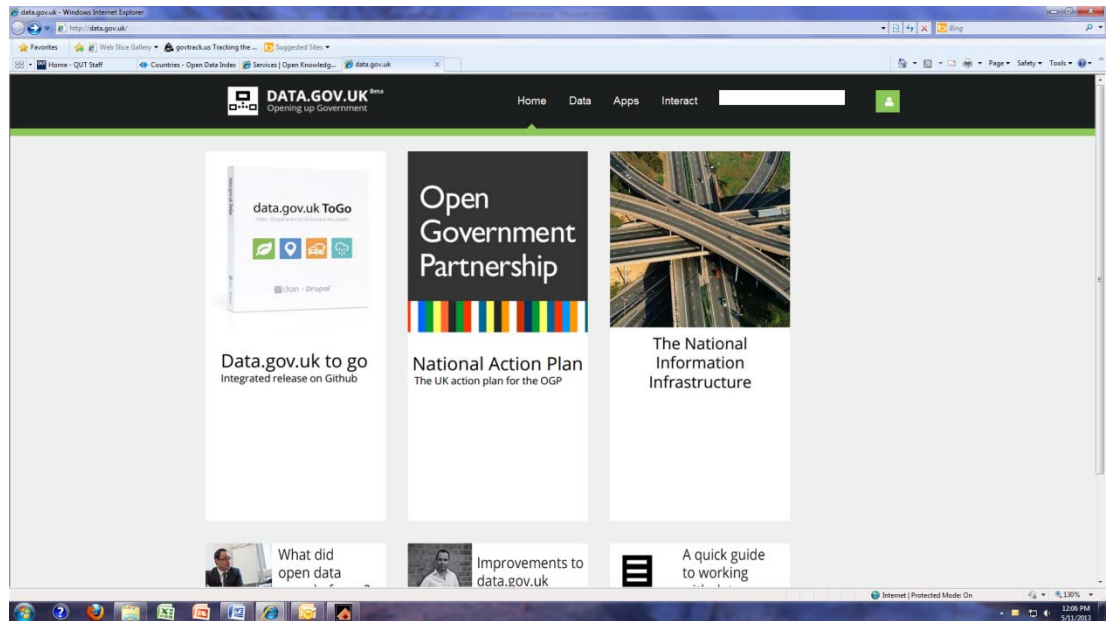


Figure 11: A snapshot of Data.gov.uk the official UK Government Data Portal

Currently, the UK data website is leading the world when it comes to the number of data files available, providing more than 10,300 data files.<sup>386</sup> This makes it the most comprehensive data source in the world. The latest open data index released by the Open Knowledge Foundation positions the United Kingdom as the world leader in releasing and freeing up government data.<sup>387</sup> This has vindicated the stated goal of the then Cabinet Minister Francis Maude to make his government ‘the most open and transparent government in the world’.<sup>388</sup> He outlines very clearly that this achievement was only possible by strengthening engagement and collaboration with civil society in order to develop and stretch the government commitments outlined in the Open Government National Action Plans.

<sup>386</sup> Cabinet Office, above n 376.

<sup>387</sup> The Guardian, *The UK tops the 2013 open data index but how do other countries compare?* <<http://www.theguardian.com/news/datablog/2013/oct/28/uk-top-open-data-index-how-countries-compare>>.

<sup>388</sup> Cabinet Office, above n 376.



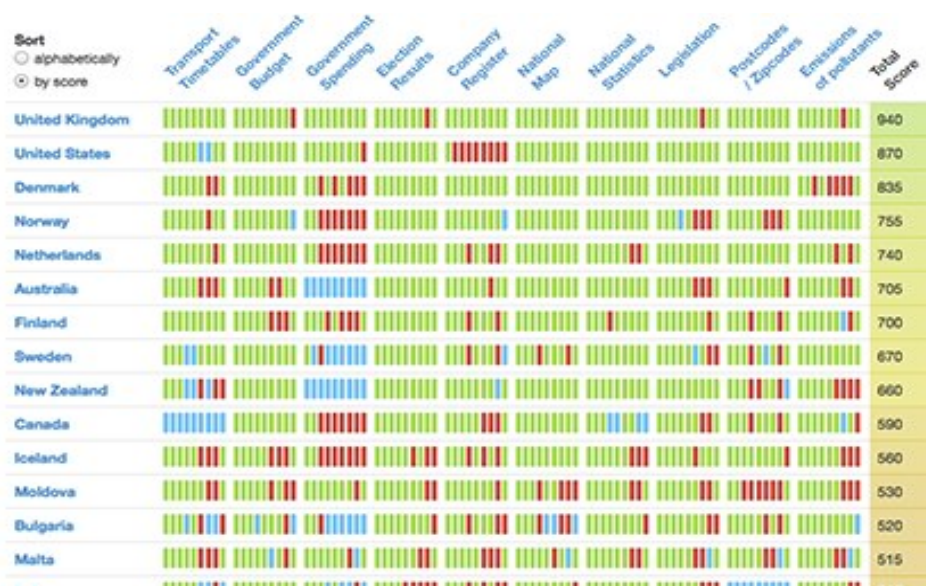


Table 3 : Worldwide ranking of the countries with Open Data portals based on Open Knowledge Foundation's Open Data Index<sup>389</sup>

Open government is critical to the empowerment of citizens and an inclusive society. It ensures that decision makers, whose decisions affect the lives of people in the community, are fully accountable and responsive to the general public. Open government also guarantees more equitable, sustainable, and effective use of the country's available resources towards fair delivery of public services.<sup>390</sup> Citizens around the world are demanding more transparency, more openness, and more engagement in the decision making process. Citizens need to have a say in decisions that affect them. They need to know where public money is being spent, and who influences spending decisions. They want a say in how public services are provided to them, and the right to comment on how effective these services are in accomplishing their intended outcomes.<sup>391</sup> Basically, citizens in the current age need to be included in the loop if a truly inclusive society is to be attained.

Openness is no longer a choice that governments can overlook or avoid in today's dynamic world. Social, economic, and political improvements imply that the traditional top-down, closed model of government is no longer appropriate or relevant in the face of high expectations and demands.<sup>392</sup> Governments must adapt to

<sup>389</sup> Open Knowledge Foundation, *Open Data Index* <<https://index.okfn.org/country/>>.

<sup>390</sup> Cabinet Office, above n 376.

<sup>391</sup> Ibid.

<sup>392</sup> Tommaso Agnoloni, Maria Teresa Sagri and Daniela Tiscornia, 'Opening Public Data: a path towards innovative legal services'.

a new world where the wellbeing and prosperity of a country is a shared, collaborative responsibility of the government and its citizens, and in which government does not have a monopoly on policy creation and processes.<sup>393</sup>

The UK experience demonstrates that leadership support plays a vital role in promoting open engagement, and OGD. Top level support is a vital factor that needs to be achieved through identifying suitable champions, not only to open up government and to release government data, but also to sustain usage and engagement of citizens around open data platforms.

#### 4.3.2 United States

##### *Chronological background*

Unlike the United Kingdom, where the impetus for opening up government and releasing data came from the private sector, the open government movement in the United States sprang from a government that was hungry for change.<sup>394</sup>

A ‘hackers engagement’ is also a part in the United States experience as there have been small, but effective, groups of ICT-versed hackers working to utilise the government available datasets, and reroute them into more accessible and enriched outcomes. As mentioned in Chapter 3, Govtrack.us, launched in 2004, was the first website worldwide to provide free comprehensive legislative tracking functionality for citizens. Embracing Web 2.0 technology and the available open data,<sup>395</sup> the site integrates and repurposes publicly available data and information on the text of bills, speeches on the floor, and votes of the two Houses of Congress.<sup>396</sup> Surprisingly enough, the website was created by a linguistics graduate student in his spare time.<sup>397</sup> In response to the kinds of activities engaged in by civic hackers and lay individuals, the Chief Information Officer (CIOs) of some of the prominent states started to release state government data sets. Vivek Kundra, as the CTO (Chief Technology Officer) of the District of Columbia, was responsible for one of the most notable releases of government data sets to the public.<sup>398</sup> In March 2009, President Barack Obama appointed him as the first federal Chief Information Officer (CIO).<sup>399</sup>

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<sup>393</sup> Cabinet Office, above n 376.

<sup>394</sup> Hogge, above n 370.

<sup>395</sup> Govtrack.us, above n 253.

<sup>396</sup> Robinson et al, above n 157.

<sup>398</sup> Hogge, above n 370.

### *Leadership Commitment*

The first presidential memos signed by President Barack Obama were related to information and IT, and designed to initiate major policy reform in the way government is harnessing Information and Communication Technologies to expand openness, transparency, and collaboration.<sup>400</sup>

On 21 January 2009 and just after one day in office, President Obama issued two significant presidential memorandums to the heads of all federal departments and agencies to strengthen the government transparency and to enhance the civic engagement and the public participation.<sup>401</sup> The first memorandum was related to the subject of transparency and open government, and called on all government agencies to focus on creating an ‘unprecedented level of openness in Government’ and to ‘ensure the public trust and establish a system of transparency, public participation, and collaboration.’<sup>402</sup>

In the second memorandum, President Obama clearly and explicitly addresses the issues in relation to modernising the guiding instructions for the application of the Freedom of Information Act (FOIA). It insisted that openness should be the default and should always prevail. The memorandum stated quite explicitly that ‘the presumption of disclosure should be applied to all decision involving the FOIA.’ Based on the new memorandums, all government agencies and departments are taking concrete steps in order to make their information public in a timely manner, and act responsively in disclosing their internal data using new dissemination technologies wherever and whenever it is possible.<sup>403</sup>

The memorandums request all related government bodies to release all information with regards to their internal policies, decisions, and operations to the public domain using the latest technologies, and to solicit public feedback to identify

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<sup>399</sup> Kundra, above n 320.

<sup>400</sup> Cary Coglianese, ‘The transparency president? The Obama administration and open government’ (2009) 22(4) *Governance* 529.

<sup>401</sup> Barack Obama, *Transparency and Open Government*, The White House <[http://www.whitehouse.gov/the\\_press\\_office/TransparencyandOpenGovernment/](http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment/)>.

<sup>402</sup> Darlene Meskell and Intergovernmental Solutions Director, ‘Transparency and Open Government’ (2009).

<sup>403</sup> Coglianese, above n 400.

which data should be made available online.<sup>404</sup> This latter activity is a reflection of what some leading government organisations have done by launching idea competitions (such as ShowUsaBetterWay.com and AppsforDemocracy.org) to solicit public feedback and to identify the government data that is most useful to citizens.<sup>405</sup> Moreover, the memorandum outlines that government bodies should increase opportunities for participation and collaboration by the general public (non-profit organisations, businesses, and individuals in the private sector) in the decision making process and policymaking strategies, and solicit public feedback to identify ways of improving the level of their collaboration and participation in government.

In his speech to the United Nations General Assembly in 2011, President Barack Obama addressed the international community about his efforts to make the government more open and to increase its responsiveness to a level not previously achieved. He noted that:

We've been promoting greater disclosure of government information, empowering citizens with new ways to participate in their democracy. We are releasing more data in usable forms on health and safety and environment, because information is power, and helping people make informed decisions and entrepreneurs turn data into new products, they create new jobs. We're also soliciting the best ideas from our people in how to make government work better. And around the world, we're standing up for freedom to access information, including a free and open Internet.

He further assured that the United States, in partnership with the other members of the OGP, will continue to fuel their agenda of making their governments more open, transparent, and accountable to their citizens. Thus, it is very clear that the movement of open government has gained a lot of momentum on the path towards sustainability in the United States supported, by an executive administration that believes in harnessing the latest technologies to empower its citizens and to better serve them. President Obama asserts that the purpose of open government is the essence of true democracy.<sup>406</sup>

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<sup>404</sup> Daniel Lathrop and Laurel Ruma, *Open government: Collaboration, transparency, and participation in practice* (O'Reilly Media, Inc., 2010).

<sup>405</sup> Ibid.

<sup>406</sup> The White House, *President Obama on Open Government: "The Essence of Democracy"* <<http://www.whitehouse.gov/blog/2011/09/20/president-obama-open-government-essence-democracy>>.

### *The Launch of Official US Data Portal*

On 21 May 2009, the US data portal *data.gov* was launched after a period of research and development. The data portal contained 76 data sets initially released from eleven government agencies. At this point, because of concerns that insufficient data sets were being released, President Obama issued a decree on 8 December 2009 requiring all government agencies to release at least three high-level data sets in a timely manner.<sup>407</sup>

The data portal has given the general public an opportunity to easily find, use, and harness the available datasets released and generated by the different federal government agencies. It also served as a platform for enhancing public collaboration and promotes this by enabling comments, feedback, and recommendations.

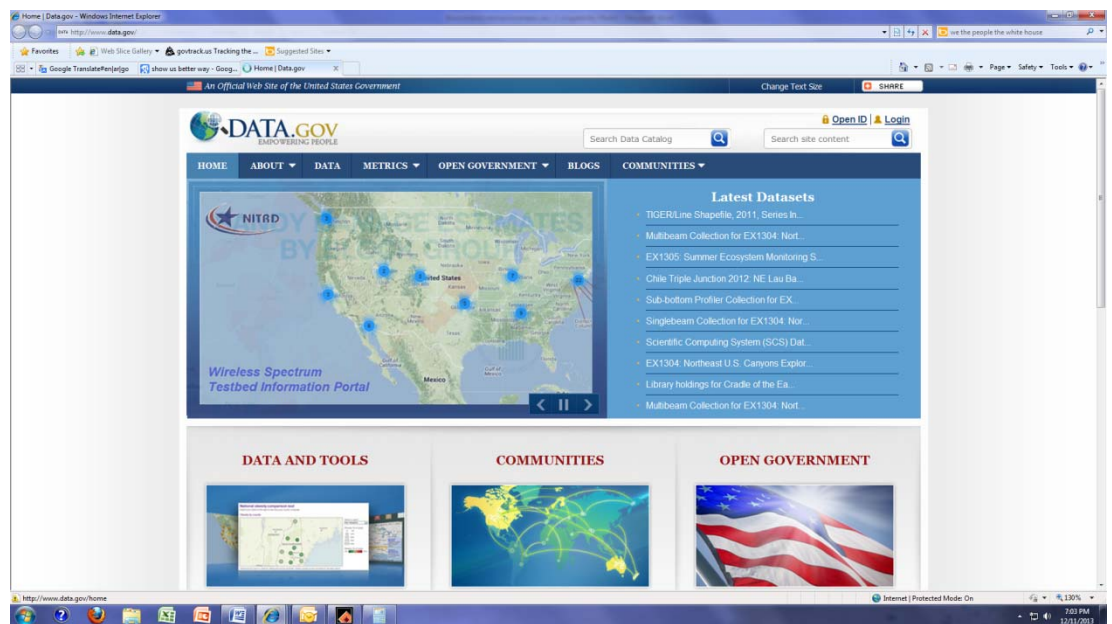


Figure 12 : A snapshot of the US Data Portal

Currently, the United States' data website is one of the leading data repositories in the world based on the quantity of data files available, at over 91,101 data files.<sup>408</sup> This makes it the second most comprehensive data source in the world,

<sup>407</sup> Hogge, above n 370.

<sup>408</sup> The United States Government, *The US Data Portal* <<http://catalog.data.gov/dataset>>.

according to the open data index released recently by the Open Knowledge Foundation.<sup>409</sup>

#### **4.4 BUILDING DOUBLE-TIER DIGITAL CAPACITY (CIVIL-SOCIETY AND GOVERNMENT)**

This section discusses the importance of having an intertwined double-tier strategy that builds the digital capacity of both civil society and government towards the goal of an Open Government environment. The issue of the digital divide and the importance of involving civil society must not be neglected if the objective of Open Government is to be attained. Building the digital capacity of government personnel is also very significant as they constitute the first layer in the system for opening up the closed silos of government data. At the same time, it is these officers who receive direct feedback on the needs of the public relevant to the development and scope of the available online information.

##### **4.4.1 United Kingdom**

Web inventor and the United Kingdom's expert advisor on OGD, Sir Tim Berners-Lee states that Open Government has to 'start at the top, it has to start in the middle and it has to start at the bottom'.<sup>410</sup> User participation and collaboration in the Open Government movement cannot be simply taken for granted, rather it has to be cultivated.<sup>411</sup> Members of the public must have sufficient digital skills to enable them to utilise the new capabilities provided to them through new technologies. Government officials, on the other hand, should be enabled to be active partners in any demand-driven open data initiative that is responsive to the actual people's needs and requirements. Government officials and public servants must have the capability to engage with citizens and disseminate the required information accordingly. Active civil society helps to promote the sustainability of open data usage by building the digital capacity of stakeholders.

In the UK, civil society has played a major role in providing bottom-up pressure on the government for change leading to a revolution in the way government information is being processed and managed. Government officials and public servants were also motivated to open up government data as they identified

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<sup>409</sup> The Guardian, above n 387.

<sup>410</sup> Hogge, above n 370.

<sup>411</sup> Osimo, above n 178.

great opportunities for increasing the efficiency of the government as well as increased possibilities for their work to be recognised by the public. Top-level political leaders will be more willing to implement openness in government if they are confident about the capacity of both the civil society and the civil servants.<sup>412</sup>

In June 2004, a group of like-minded, loosely-affiliated volunteers initiated the website *TheyWorkForYou.com* using data published on the official parliament website (the Hansard website, *parliament.uk*), to make it possible for the public to keep tabs on their elected MPs, and comment on events in Parliament.

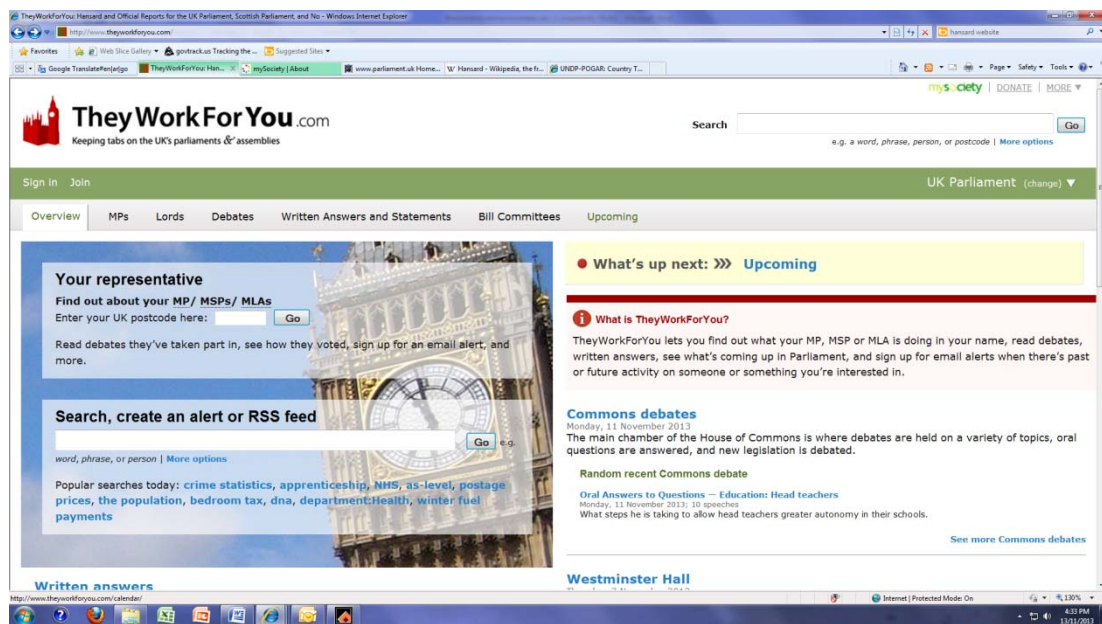


Figure 13: A snapshot of *TheyWorkForYou* website

The website has repurposed the available published data and presented it in a new accessible, searchable format, giving users an opportunity to comment and post feedback. The website was launched despite the fact that it was possibly infringing copyright in the government data it published, as the Parliament website's data was covered by the Crown Copyright.<sup>413</sup> At a later stage, click-use licensing was developed at the office of Public Sector Information, which gave legitimacy to the site's data usage activities.

In 2006, the running of the site was passed to mySociety, a non-for-profit charity organisation that was founded by Tom Steinberg in September 2003 to

<sup>412</sup> Agnoloni, Sagri and Tiscornia, above n 382; Hogge, above n 370.

<sup>413</sup> Hogge, above n 370.

further promote openness and to help the general public build their digital capacity for stronger civic engagement. It carries out its mission by building simple and easy to use websites that members of the general public can use to achieve tangible outcomes and to connect and improve their society in a meaningful way.<sup>414</sup> The organisation itself provides open source software for all the websites it creates, and offers it to the broader community to promote further replication of their works globally.

The Open Knowledge Foundation (OKF), a non-for-profit organisation founded in 2004 and dedicated to promoting open data, also played a major role in establishing a grassroots movement in the area of open data. The UK's and the US's data portals (*data.gov.uk* and *data.gov*) were built using an open source data portal platform, Comprehensive Knowledge Archive Network (CKAN), that was developed by the Open Knowledge Foundation.<sup>415</sup>

An active civil society that strives to cultivate public participation and enhance engagement through providing more opportunities for collaboration is extremely important for the welfare of the society as a whole. Thriving civic engagement cannot, and must not be taken for granted, as severe limitations actually exist because of the existing digital divide. Appropriate strategies must be developed and implemented if meaningful civic engagement is to be realised.

The direct intervention of an active civil society has spurred the debate around data and the right to access government information. Members of the general public have begun to realise some of the tangible benefits that open and free access to data could enable them to accomplish, using only limited resources. There has been widespread adoption of the sites created by mySociety and others, because of their ease-of-use, applicability, and adaptability to the digital capacity of an ordinary layperson.<sup>416</sup>

#### 4.4.2 United States

Similarly, the civil society movement in the United States was equally as active as its counterpart in United Kingdom. Again, in the US, an active civil society

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<sup>414</sup> MySociety, *my Society* <<http://www.mysociety.org/>>.

<sup>415</sup> Hogge, above n 370.

<sup>416</sup> Ibid.



stimulated public debate around openness and open data and, consequently, increased demand for an Open Government environment.

What began as only as a hobby in September 2004 for Josh Tauberer, a linguistic postgraduate and software developer, turned out to be a massive call for openness in government. Tauberer developed the website *GovTrack.US* using free and available government data published on the Library of Congress website (*THOMAS*), and repurposed it in a simple, accessible, and searchable format for the general public.<sup>417</sup>

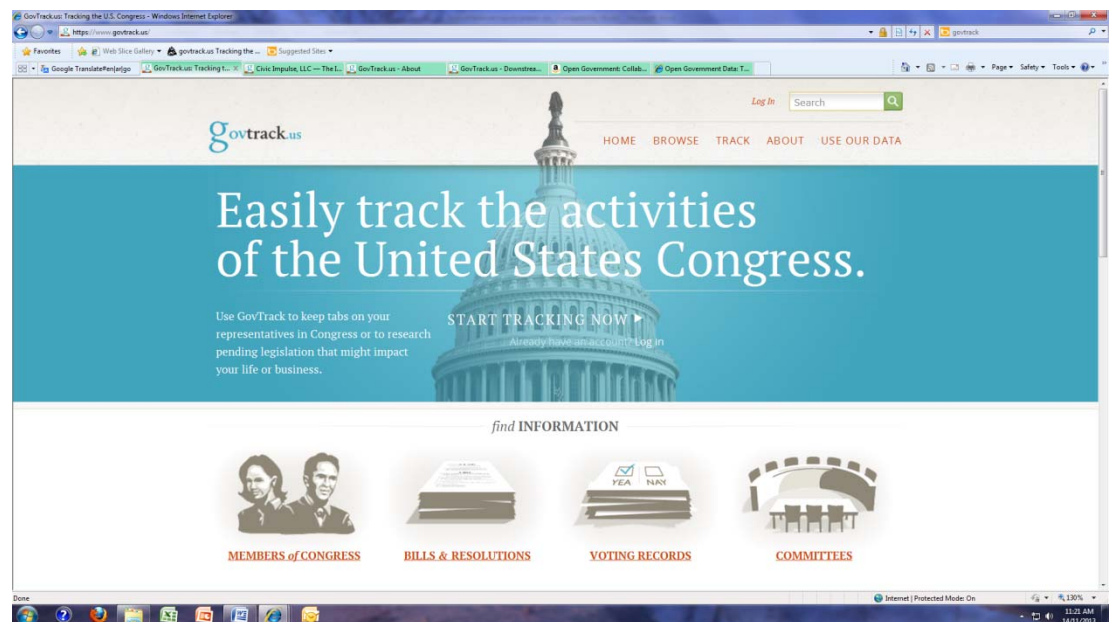


Figure 14: A snapshot of GovTrack.US website

The site helps ordinary citizens to keep track of their representative legislative record, and to follow up on the latest bills before Congress. Tauberer's hobby has become one of the most visited government transparency sites in the world, and the site itself has been used as a model for other similar transparency websites around the globe. Since its inception, the site has been one of the leaders in the growing Open Government movement<sup>418</sup>

Another example of the influence of active civil society in boosting the debate around open data can be seen from the formation of the Sunlight Foundation as a

<sup>417</sup> Markus Neteler and Helena Mitsova, *Open Source software and GIS* (Springer, 2008); Hogge, above n 370.

<sup>418</sup> GovTrack, *Creating government transparency and civic engagement through novel uses of technology*. <<https://www.govtrack.us/about>>.

non-profit, and nonpartisan organisation founded in April 2006. The main goal of that organisation's creation was to increase government transparency and enhance its accountability at both state and local levels using the power of the Internet.<sup>419</sup> The main focus of the organisation is to shed the light on the role of money in the political arena as it calls for more policy changes towards achieving more transparent and Open Government. To achieve that goal, the foundation harnesses the latest technological tools at *opencongress.org* to increase citizens' participation levels in government and to increase civic collaboration. It delivers policy change recommendations and expands accessibility to vital government data and information.<sup>420</sup> In one of their recent blog posts, Sunlight Foundation argues that governments should not provide visualization of its data; rather, they should strive to expose their wealth of data so that third parties can perform that task. The Foundation believes that others will do the job better than the government itself.<sup>421</sup>

The Open Government movement has been fuelled by concerted efforts from the government and active members of civil society to consider government information as a national asset. Opening up government, and empowering citizens to participate effectively in policy making and to collaborate in making the decisions that will affect them the most, requires consolidated and integrated, participatory, efforts from both the government and civil society.

#### **4.5 WEB 2.0 INVOLVEMENT (GOVERNMENT 2.0)**

As discussed in Chapters 1 and 2 of this thesis, many scholars refer to the existing unresolved link between the government and their citizens in current e-Government systems. There is a lost link between public servants and citizens in the e-Government systems that were developed in the Web 1.0 era. Thus the new generation of social media or Web 2.0 applications, in which users are more proactive in their dealings with others online, have a great potential to enable interaction between citizens and their governments, and to close the citizen-government gap. Governments can harness the potential inherent in Web 2.0, and exploit its capacity to cultivate a better relationship with their citizens.

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<sup>419</sup> Coglianese, above n 400.

<sup>420</sup> Sunlight Foundation, *Making Government Accountable and Transparent* <<http://sunlightfoundation.com/>>.

<sup>421</sup> Osimo, above n 178.

The success of the Open Government movement requires the establishment of a double-sided, two-way, bilateral direct communication between government and citizens. This is significant, not only for the sake of ensuring the usability of available government data and information, but even for identifying citizens' real needs, for the mutual benefits of the two parties. The process of opening up governments' huge inventory of information, and the sustainability of its usage by the public must be continuously monitored and assessed. Harnessing Web 2.0 tools are considered to be important means to undertake that monitoring and assessment.

Web 2.0 consists of new ICT innovations that exploit the Internet's connectivity dimension to support the networking of relevant people and content, and to increase the usability, integration, and reuse of web applications. These innovations are built on the knowledge and skills of individual users, they empower users to be contributors to knowledge, and make their contributions richer and more meaningful through collaboration and networking. In this way the total is more than the sum of the individual contributions.<sup>422</sup> User Generated Content (UGC) plays a major role in the editing and filtering process of the content of Web 2.0 based applications as it depends on peer review by all users of the application. User feedback is vital, not only as a measure of the application's success, but also to ensure the continuity and sustainability of the application itself. Applications, built in the Web 2.0 environment, are developed and released in what is known as 'perpetual beta' versions. They are developed and updated based on the continuous guidance from their users' feedback and comments. UGC is therefore vital for the continuous existence and sustainability of the application itself.<sup>423</sup>

The other main key feature of Web 2.0 that makes it very effective to boost Open Government Data is its ability to use, reuse, and 'mash-up' data. Really Simple Syndication (RSS) feeds, for example, make it possible to publish the content of any website directly to other websites. Open Application Programming Interfaces (API) enable referencing to other geo-information such as Google Maps, and similar services. Thus, Web 2.0 applications and technologies are designed with the ability of re-using other available data.

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<sup>422</sup> Osimo, above n 178.

<sup>423</sup> de Kool and van Wamelen, above n 200.

In the case of government data, Web 2.0 technologies could help to boost the usage of public data sets and information, provided for free by government bodies, and consequently enhance the transparency, accountability, and increase public participation in the country that implements them. Web 2.0 applications and technologies empower citizens with better ways of utilising government information towards facilitating their everyday lives.<sup>424</sup> This happens by changing the role of citizens from merely passive receivers of government services, to be and active contributors who participate more proactively in exploiting government data and information. The unique skills and valuable competence of citizens is considered a key-contributing source for necessary further improvements in government usage of Web 2.0 applications.<sup>425</sup>

This section discusses the importance of establishing the missing link between government and citizens using Web 2.0 technologies to ultimately strengthen the Open Government Data. The exploitation of Web 2.0 technologies in government online systems has resulted in the introduction of a new term: Government 2.0. This section will elaborate on the meaning and implication of this term in the context of OGD.

#### **4.5.1 Bottom-up Government 2.0 initiatives**

Attempts to learn from the success of Web 2.0 and its enormous rate of uptake, motivated public servants and some government bodies to try to tap into this success and reflect it in government online systems. The trend towards utilising Web 2.0 technologies started with bottom-up micro projects, initiated by active members of civil society. These initiatives then stimulated some governments and public sector organisations to embrace Web 2.0 in macro-level initiatives.<sup>426</sup>

These Web 2.0 projects have the key features of seeking to challenge, disrupt, and enhance the conventional service delivery implementation provided by the public sector. They build on the Web 2.0 principles of openness, sharing, and transparency to utilise the available government data to create a better public value for all. These projects share the common attribute that they emerged out of a problem-solving background. They are often developed spontaneously, require few

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<sup>424</sup> Osimo, above n 178.

<sup>425</sup> Ed Mayo, Tom Steinberg and Great Britain, *The power of information* (Cabinet Office, 2007).

<sup>426</sup> Osimo, above n 178.

resources, and generally use open source software.<sup>427</sup> They put a strong emphasis on the usability of available government data, and they seek to make public data more meaningful and useful in a very simplified interface with clear guidelines that suit the layperson or the ordinary user.<sup>428</sup> To attain the latter goal, they tend to extract unusable government data and present it in a user-friendly format, through visualisation and rankings.

Citizens and civil society groups have cooperated in producing new public services that did not previously exist, to solve or create an alternative solution to a problem. They often use freely available government information and re-package it using Web 2.0 technologies. For example, citizens of San Francisco created a website using GoogleMaps to identify locations selling bus passes. The government service only displayed this information using a postcode feature and had proved unusable. Other groups joined together to integrate all public services about support and resources for new mothers and provided them in one Web 2.0-based website, *netmums.com*.<sup>429</sup>

Other significant and highly important Web 2.0-based bottom-up initiatives have emerged during various natural disasters such as the Queensland floods in 2011, Hurricane Katrina, and recent tsunamis. Blogs, wikis, and a variety of mashed-up maps have been widely used during these emergencies. Citizens share knowledge, tips, and advice on how to deal with various issues, or on how to sort out certain difficulties, and problems.<sup>430</sup>

It is important to note that many of these bottom-up initiatives are implemented and developed without hesitation (or, in other words, without passive resistance) on the part of the public bodies providing the data. Massive efforts have been made by the developers to make the data usable and to provide it in a machine-readable format. This demonstrates that if governments actively embrace the attitude of openness, several key benefits can be achieved. An engaged citizenry, better accountability, more citizen-oriented services, and new technological innovation opportunities are just some of the many benefits to be gained if OGD is well

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<sup>427</sup> Ibid; Pascu et al, above n 117.

<sup>428</sup> O'Reilly, above n 207.

<sup>429</sup> Osimo, above n 178.

<sup>430</sup> Ibid.

implemented, and if government acts proactively to release their massive silos of data.<sup>431</sup>

#### 4.5.2 Macro-level Government 2.0 Projects

As a result of the impact of Web 2.0 and the uptake achieved by civil society projects, some governments and public bodies have launched online services based on Web 2.0, technologies on a macro-level.

One of the prominent examples of Web 2.0 applications at the macro-level is the United Kingdom's e-petition system, which was launched by the office of the Prime Minister. It entitles its users to submit a direct petition to the Prime Minister, and allows them to browse, assess, and sign a petition created by other citizens. They can also check the outcome of other previously submitted petitions and learn the reasons behind any rejection or follow-up. The latter feature was not possible previously as petitions were always sent directly to the Prime Minister, and other members of the society were neither able to see petitions submitted by others, nor were they able to subscribe to them. Even the final outcome of a petition was not easily accessible.<sup>432</sup>

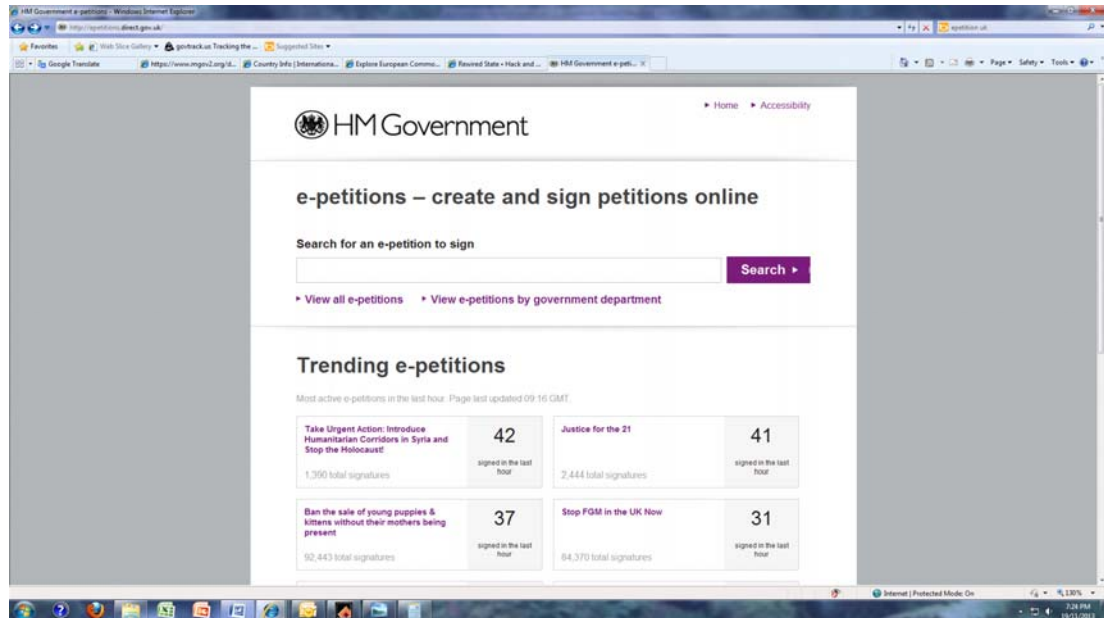


Figure 15 : A snapshot of e-Petition systems of UK

<sup>431</sup> Osimo, above n 178.

<sup>432</sup> HM Government, *e-petitions – create and sign petitions online* <<http://epetitions.direct.gov.uk/>>.

Citizens in general were very motivated to use the new Web 2.0-based e-Petition system, and to date it has involved millions of citizens. On one occasion, a petition contributed to the blocking of a bill proposed to implement a road tax charge by collecting nearly two million signatures.<sup>433</sup> If a submitted petition receives 100,000 signatures, it is forwarded for debate in the House of Commons.<sup>434</sup> In the first six months after the systems was launched, it reached 2.1 million users.

Another notable aspect of utilising Web 2.0 technologies in government at the macro-level was in the area of reinforcing and restrengthening citizens' engagement with government. The decline of civic engagement in the public arena has been considered as one of the main challenges of modern government.<sup>435</sup> The employment of Web 2.0 technologies has been an obvious strategy in recent years, especially in the domain of political participation, where its impact is very visible and mature. Since 2004, blogging has been very influential in political campaigns and elections the in United States as well as in Europe. Social networking applications such as Facebook and Twitter have become essential tools for many politicians in the current era.<sup>436</sup> In their last two respective elections, both US President Barak Obama and UK Prime Minister David Cameron have extensively used the video-streaming application YouTube in their campaigns, in order to make direct contact with the electorate.<sup>437</sup>

Transparency in government is one of the key challenges to be targeted in the current era for the future improvement of overall governmental processes.<sup>438</sup> To that end, many Web 2.0 initiatives have been set up to enhance the level of transparency in government activities. These initiatives often use the available public data, rearrange it, and analyse it to monitor the behaviour of politicians and civil servants. They present the data in a more meaningful and understandable way to the public.<sup>439</sup> Moreover, they all share the common attribute of Web 2.0 projects and applications,

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<sup>433</sup> Osimo, above n 178.

<sup>434</sup> HM Government, above n 422.

<sup>435</sup> William Dutton and Malcolm Peltu, 'Reconfiguring government-public engagements: Enhancing the communicative power of citizens' (2007) *Available at SSRN 1295337*.

<sup>436</sup> Andrew Kohut et al, 'Social networking and online videos take off: Internet's broader role in campaign 2008' (2008) *TPR Center, The PEW research center*.

<sup>437</sup> Osimo, above n 178.

<sup>438</sup> Valerie Frissen et al, 'The future of eGovernment' (2007) *27 Executive Summary, <http://ftp.jrc.es/22897-ExeSumm.pdf>, accessed: October 2007*.

<sup>439</sup> Osimo, above n 178.

of being flexibly adapted after their initial releases and based on frequent citizen feedback. For example, the UK government's Petition website was updated 50 times on its first day of release.<sup>440</sup>

Merely, adding a wiki, a blog, or any other social networking feature to a government's website is not enough, in itself, to increase citizens' engagement and enhance their contributions. Experience with Web 2.0 technologies has shown that user participation is not an easy task to accomplish. This is a significant factor as large-scale participation is regarded as a prerequisite for the successful implementation of those projects. As Professor Beth Noveck asserts, 'many participants in the process dilutes the effect of bad apples or unconstructive participants'.<sup>441</sup> On the other hand, low participation undermines the quality of the contributions, resulting in an adversely impacted service.<sup>442</sup>

Many Web 2.0 initiatives are based on the re-elaboration of public data. Increasing and widening the availability of government data and information for use and reuse would boost the Open Government Data movement, as it would provide more of the necessary 'raw material' required for various Web 2.0 applications to flourish.<sup>443</sup>

#### **4.6 LEGAL INFRASTRUCTURE**

This section examines the importance of having in place a basic legal framework that underpins and strengthens Open Government and OGD.

There are two main civil society movements advocating for greater openness and accessibility to data and information held by government public bodies. The first one of the two movements is the 'Right to Information', and the second one is the 'Open Government Data'. The focus of the first is the right to information, while the second one is more concerned with OGD. Both call for further openness and transparency in government, whether to promote public access to information from a human rights perspective, or to achieve further economic, and social value for society. They both campaign for greater accessibility to government information and data as a basis for socially inclusive service delivery, and claim that releasing more

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<sup>440</sup> Osimo, above n 178.

<sup>441</sup> Noveck, above n 162.

<sup>442</sup> Osimo, above n 178.

<sup>443</sup> Ibid.



information into the public domain will stimulate the economy through the intervention of third parties such as developers and civil society organisations, to create new services using free government data.<sup>444</sup>

As the OECD confirms in its empirical analysis of OGD initiatives, there is a great deal of overlap between these two significant civil society movements in terms of calling for more transparency so that citizens can enjoy the latent social and inherent economic value of government information.<sup>445</sup> Nevertheless, it is an assumption of this research that OGD is not possible, nor achievable without the existence of a proper legal framework to underpin and support accessibility to government information.

#### **4.6.1 Knowledge society is not possible without Freedom of Access to Information**

The Internet and ICTs have opened up new avenues, not only for global economic activities, but also for mobilising civil society and increasing government transparency by the sharing of knowledge. However, there are many instances where governments seek to impose authoritarian restrictions on who uses the Internet, or on what content they might be able to access.<sup>446</sup>

However, it is the belief of many scholars that a knowledge society cannot develop or progress in the absence of freedom of access to information. As Lor and Britz succinctly explain: 'Freedom is fundamental to participation in a knowledge society.' They point out that, in the current era of globalization, the right to access information has become one of the most significant social rights, and that it is no longer an abstract good, but a prerequisite for participation in any of the social, economic, or political activities of today's knowledge society. They conclude by asserting that 'freedom of information is rightly regarded as a basic human right'.<sup>447</sup> Access to available government information is vital in order for citizens to be able to

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<sup>444</sup> Barbara Ubaldi, 'Open Government Data: Towards Empirical Analysis of Open Government Data Initiatives' (2013) 22 *OECD Working Papers on Public Governance*

<sup>445</sup> Ibid.

<sup>446</sup> Peter Johan Lor and Johannes Jacobus Britz, 'Is a knowledge society possible without freedom of access to information?' (2007) 33(4) *Journal of Information Science* 387.

<sup>447</sup> Ibid.

exercise the benefits of this individual human right, especially in countries where the flow of government information is highly limited to the elites.<sup>448</sup>

The United Nations General Assembly, at its first session in 1946, declared freedom of information to be a fundamental human right, and that it considers it to be the real touchstone of all the freedoms that the United Nations was established to protect.<sup>449</sup> As discussed in Chapter 3, Article 19 of the United Nations Universal Declaration of Human Rights acknowledges the fundamental right of the individual to receive and distribute information. Article 19 clearly affirms ‘everyone has the right to seek, receive, and impart information and ideas through any media and regardless of frontiers’.<sup>450</sup> Article 4 of the Declaration of Principles, adopted by the first World Summit on the Information Society held in Geneva in 2003, emphasizes the right of every individual in a society to receive, participate in and exchange data and information by any medium in order to enjoy the benefits of the information society. It declares that no one must be excluded, or prohibited from exercising this basic right.<sup>451</sup>

According to a recent worldwide Freedom of Information survey conducted by Privacy International, access to government public information in western democracies has been regarded as basic civil right, and has been legislated for in their Freedom of Information Acts. The study found that North American countries as well as most European countries (with an exception of Malta, Luxemburg, and Cyprus) have adopted legislation that guarantees citizens’ access to government information.<sup>452</sup> The report affirms that Freedom of Information legislation is not merely a tool to combat corruption and mismanagement; rather it also helps the government by increasing citizens’ trust through enhanced openness and transparency.<sup>453</sup>

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<sup>448</sup> Open Democracy Advice Centre (ODAC), *Right to Access Information Training Manual* <<http://www.r2k.org.za/wp-content/uploads/2012/12/rti-training-manual-dec-2012.pdf>>.

<sup>449</sup> Mendel, above n 299.

<sup>450</sup> Morsink, above n 294.

<sup>451</sup> Raboy, above n 295 ; Raboy and Landry, above n 301.

<sup>452</sup> David Banisar, 'Freedom of information around the world 2006: A global survey of access to government information laws' (2010).

<sup>453</sup> Herbert Kubicek, 'Next generation FoI between information management and web 2.0' (Paper presented at the Proceedings of the 2008 international conference on Digital government research, 2008).

The Swedish Freedom of Information Act, the first legislation in the world to guarantee citizens' accessibility to government information dates back to 1776. According to the Act, every document filed by the government has to be made available to the public. Almost 200 years later, the United State followed suit,<sup>454</sup> enacting its Freedom of Information Act in 1967. Over the past decades, the number of countries enacting similar legislation enabling and empowering their citizens with accessibility to government information, and obliging public authorities to embrace proactive public access has dramatically increased from a dozen countries to more than 50, and continues to escalate.<sup>455</sup> All OECD countries are moving from a framework where government chooses what information will be revealed to a new situation where all government data and information are made available to the public unless there is a clear public interest in it being withheld.<sup>456</sup> Apart from Europe and North America where this movement has had the greatest momentum, a significant and growing number of countries in Africa, Asia, and South America have adopted or are currently considering the adoption of similar legislation.

#### 4.6.2 From "Freedom of Information" to "Right to Information"

Openness and transparency are essential aspects of good governance, and are usually an indication of proper and clear management. Weak governments often rely on secrecy to hide their inefficiency, mismanagement and corrupt actions.<sup>457</sup> Having open access to government information enables citizens to scrutinize their government's actions and underpins an informed public debate. As Joseph Stiglitz, the former senior vice-President of the World Bank states:

Meaningful participation in democratic processes requires informed participants, and secrecy reduces the information available to the citizenry, hobbling their ability to participate meaningfully... We often speak of government being accountable to the people. But if effective democratic oversight is to be achieved then the voters have to be informed...

Right to Information (RTI) laws and policies stimulate and encourage governments to adopt a new strategy whereby government departments and agencies proactively implement a 'right-to-know' approach. They endeavor to publish as much information as possible in the interest of both the publisher of the information

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<sup>454</sup> Open Democracy Advice Centre (ODAC), above n 448.

<sup>455</sup> Banisar, above n 452.

<sup>456</sup> Osimo, above n 178.

<sup>457</sup> Herbert N Foerstel, *Freedom of Information and the Right to Know: The Origins and Applications of the Freedom of Information* (Greenwood Press, 1999).

and the citizen who receives it.<sup>458</sup> Thus, disclosure of government data and information must take precedence over secrecy, and in the case of conflicting legislative interpretation, information disclosure should prevail.

Moreover, in unequal societies, the right to information can make it possible for any member of the community to demonstrate discrimination by individuals, groups or government agencies using evidence gained through access to government information. For instance, if the right of equal opportunity to education has been breached by a government school which is only admitting children with a specific background or status, this can be demonstrated by assessing government information accessed online.<sup>459</sup>

In many national constitutions, the right to information (RTI) is now regarded as critical to the realisation of a number of key civil socio-economic rights, such as adequate healthcare, fair and equal education, and a clean environment.<sup>460</sup>

#### **4.7 CONCLUSION**

This chapter has demonstrated how a focus on openness and transparency has impacted on developed countries. Taking the United Kingdom and the United States as case studies because of their status as OGD pioneers in terms of capacity and achievements to date, the research has analysed OGD developments in those countries, and identified the main driving factors for opening up governments' data and information silos. The key elements of this success were outlined and presented in the Open Government Data Success Model.

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<sup>458</sup> Open Democracy Advice Centre (ODAC), above n 448.

<sup>459</sup> Ibid.

<sup>460</sup> Ibid; Foerstel, above n 457.



# Chapter 5: Open Government in the State of Qatar

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## 5.1 OVERVIEW

This chapter strives to understand the priorities that governments in developing countries should explore to increase the use by their citizens of e-Government services. Rather than surveying the use of Open Government initiatives across a range of developing countries, the choice was made to examine the implementation of various Open Government initiatives in the State of Qatar as a representative of developing countries. The investigation is not limited to Open Government, but covers different implementations of Web 2.0 applications and technologies aimed at maximising the benefits of public data for the common good.

As discussed in Chapter 4, the use of pervasive and intuitive ICTs and applications to open up government throughout the developed world has affected the lives of ordinary users in many ways. Despite the notable success of Open Government, and growing citizen participation in many developed countries, developing countries still seem to lag behind in implementing advances for the empowerment of their citizens, and increasing their participation in the decision making process. The delay in introducing Open Government projects in developing countries is not only due to the lack of ICT capabilities, rather there are other impediments that hinder such advances. These challenges arise from weak civic engagement, lack of political support, and the absence or insufficiency of the required legal frameworks that must underpin the whole process.

This chapter examines the advancement of Open Government initiatives in developing countries as well as the progress and development of associated Web 2.0 technologies and applications in pursuing the Open Government agenda. This is done using Qatar as a case study, examining its current experiences, and conducting a web survey of ‘Open Government’ initiatives, to understand the implications and the potential of implementing a fully-fledged Open Government in Qatar.

### 5.1.1 The Internet's Impact in Developing Countries

ICTs, and particularly the Internet, have emerged as a one of the most unprecedented global social and technological phenomena in the history of humankind. Their impact has not been limited only to providing new methods of communication, but they have also created new ways of accessing and contributing information and opinions.

In developing countries, the Internet has played an important role in expanding and improving education, and disseminating knowledge in the public domain for the ultimate public good. Because of the Internet's unique attribute of neutralising inequalities (based on gender, race, creed, or nationality), developing countries that have traditionally encountered many obstacles to the effective dissemination of information and knowledge throughout their communities may finally be in a better position to boost their economic development through the use of ICTs.<sup>461</sup>

The Internet can address all the persisting traditional infrastructure barriers that have impeded means of supply and dissemination of information in developing countries. It can play a major role in increasing civic engagement, and consequently improving democratic governance and the delivery of government services.<sup>462</sup> Moreover, the Internet has proved to be valuable as a medium supporting freedom of expression and facilitating change in developing countries. The recent unrest and uprisings in the Middle East and North African (MENA) regions prove that the Internet is not merely a new means of disseminating information, but can influence public behaviour and ultimately affect society's direction in a significant way. The youth generation of the MENA countries took up the common objective of breaking up their long-standing oppressive regimes. To achieve that goal, they used modern communication tools provided by the Internet such as Facebook, Twitter, and YouTube for the purpose of interaction and mobilisation to earn their freedom and achieve their dignity.

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<sup>461</sup> Dalindyabo Shabalala, *Towards a Digital Agenda for Developing Countries* Citeseer <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.122.3911&rep=rep1&type=pdf>>.

<sup>462</sup> Yochai Benkler, *The wealth of networks: How social production transforms markets and freedom* (Yale University Press, 2006).

### 5.1.2 Why Developing Countries, and Why Qatar?

Studying the effect of various ICT-enabled projects on developing countries is of great importance especially if we consider that, according to the United Nation's Population Division; the world population is expected to reach 9.6 billion by 2050.<sup>463</sup>

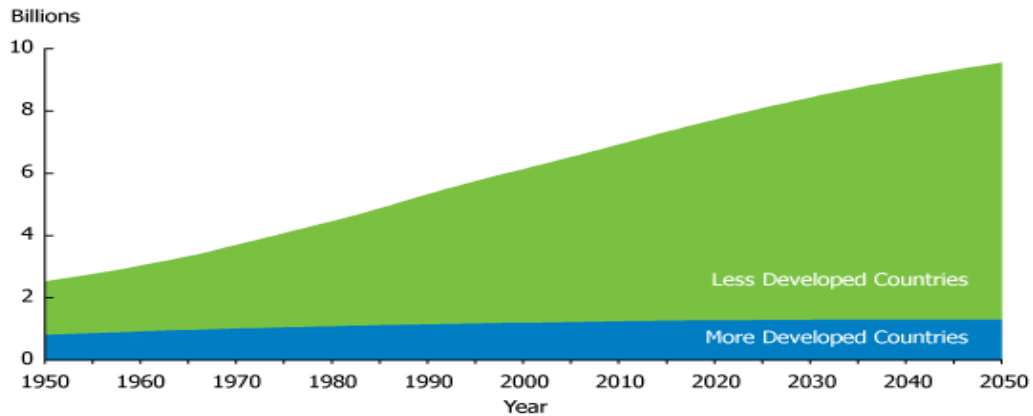


Figure 16 : United Nation Prediction of the World Total Population by 2050<sup>464</sup>

Moreover, the UN Population Division predicts that almost 85%-to-90% of the total world population will be living in developing countries by 2050 (see Figure 16). The UN's World Population Prospects report (June 2013) has confirmed that most of the population growth will occur in the developing countries region. It makes great sense, then, to focus research on the implications that developments in OGD will have on developing countries, given that it will affect almost 90% of the Earth's population over the next three decades.

Qatar has been chosen as a case study, representing developing countries, based on the following factors:

Qatar's e-Government project was considered to demonstrate the West Asia region's best practice by the United Nation's 2005 e-Government Readiness Report.<sup>465</sup> The United Nations 2008 e-Government Global Survey Report ranked

<sup>463</sup> Population Division United Nations, *United Nations Raises Projected World Population* <<http://www.prb.org/Publications/Articles/2013/un-world-projections.aspx>>.

<sup>464</sup> Ibid.

<sup>465</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.



Qatar's e-Government as number 53 of the 189 countries surveyed.<sup>466</sup> The United Nation's 2012 e-Government Survey Report raised Qatar's e-Government development ranking to number 48 worldwide.<sup>467</sup>

Moreover, Qatar is considered to be the least corrupt country in the West Asia region. Within the entire continent of Asia, Qatar is ranked fourth after Singapore, Hong Kong, and Japan. Worldwide, Qatar is ranked 27<sup>th</sup> in the most recent global annual ranking by Transparency International's Corruption Perception Index.<sup>468</sup>

Qatar is the least populous country in the Gulf region, and gained a great deal of publicity in the international domain, after launching its influential media organisation, 'Aljazeera'. The Qatari government introduced the satellite TV channel in 1995, as a new platform for freedom of expression in the Middle East.<sup>469</sup> Aljazeera allowed live open and public forum debates about many controversial and sensitive issues, which were previously considered taboo.

Abusalem asserts that Aljazeera has become the most popular satellite news service in the Arab world, with many regimes considering it as a threat to their stability. Aljazeera has played a major role in changing the social and political values of societies in the Arab world, particularly in relation to values such as human rights, equality, diversity, and freedom.<sup>470</sup> It has created a new public domain of freedom, and instilled new values of democracy in an area in which non-democratic and despotic values have traditionally been found. Abusalem, through field studies in five countries including Australia, concludes that Aljazeera is considered to be a catalyst of democratisation and socio-political change in the Middle East through fostering democracy and empowering ordinary citizens.<sup>471</sup>

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<sup>466</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

<sup>467</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

<sup>468</sup> Transparency International, above n 132.

<sup>469</sup> Mohamed Zayani, *The Al Jazeera phenomenon: Critical perspectives on new Arab media* (Pluto Press London, 2005).

<sup>470</sup> Mohammed El-Nawawy and Adel Iskander, *Al-Jazeera: How the free Arab news network scooped the world and changed the Middle East* (Westview Cambridge, MA, 2002).

<sup>471</sup> Ali Abusalem, *Pan-Arab satellite television phenomenon: a catalyst of democratisation and socio-political change* (PhD Thesis, QUT, 2007) <[http://eprints.qut.edu.au/18637/1/Ali\\_Abusalem\\_Thesis.pdf](http://eprints.qut.edu.au/18637/1/Ali_Abusalem_Thesis.pdf)>.

Based on the factors outlined above, Qatar is considered to be an exemplary model of a developing country still in the early stages of its ‘Open Data’ implementation, while at the same time, one with the technological and political potential to further progress the opening-up of its government information.

## 5.2 QATAR’S E-GOVERNMENT

The State of Qatar is a peninsula located strategically at the centre of the western coast of the Persian Gulf, with a total land area of about 11,437 sq km, and a population of around 2 Million people.<sup>472</sup> Qatar is one of the high-income countries that constitute the Gulf Cooperation Council in the Middle East region. Nevertheless, the International Monetary Fund considers Qatar to be a developing economy in the latest World Economic Outlook Report issued on April 2012.<sup>473</sup> Based on the world development indicators, the World Bank also categorises Qatar as a developing country.<sup>474</sup> The IMF’s developing economies are depicted in Figure 17 below.

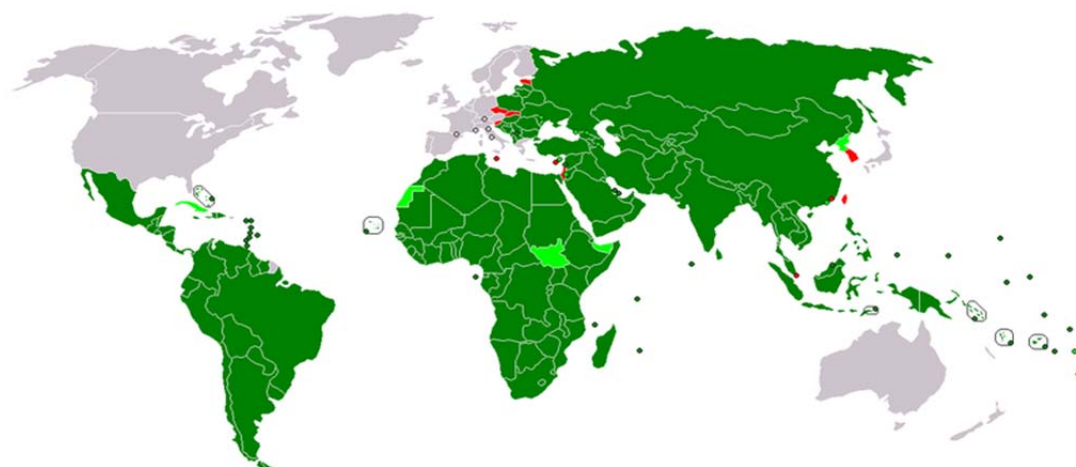


Figure 17 : Developing Economies Map according to International Monetary Fund<sup>475</sup>

<sup>472</sup> Central Intelligence Agency, *The World Fact Book* <<https://www.cia.gov/library/publications/the-world-factbook/geos/qa.html>>; Shafi Al-Shafi and Vishanth Weerakkody, 'Adoption of wireless internet parks: an empirical study in Qatar' (Paper presented at the Proceedings of the 5th European and Mediterranean Conference on Information Systems (EMCIS), 2008).

<sup>473</sup> International Monetary Fund, above n 106.

<sup>474</sup> The World Bank, above n 107.

<sup>475</sup> International Monetary Fund, above n 106.

Qatar is one of the leading countries in the Western Asia region in terms of e-Government and transparency. The modernisation of the ICT-based public sector environment has occurred during the course of the last three decades, with varying degree of success. Qatar established its e-Government initiative in July 2000 with the ultimate goal of becoming a fully integrated, paperless government, and to achieve the highest performance in executing governmental transactions electronically, through streamlined business processes and integrated information technology solutions. The initiative began with a pilot project to renew resident permits. Three government parties were involved in the pilot, namely, the Ministry of Interior as service provider, Qatar National Bank as a payment gateway facilitator for that service, and Qatar Central Bank as a host of the e-government pilot project system. After the successful implementation of the pilot project, full government support was given to the assessment of all ministries and public sector organisations for the second phase of the project, with the goal of providing all government services using electronic transactions.<sup>476</sup> The vision of the Qatari e-government initiative was 'Qatar online services, anytime, anywhere, providing government transactions, information and knowledge'.<sup>477</sup>

In 2004, ictQATAR was established to manage and develop Qatar's overall ICT strategy, including ICT infrastructure, service delivery, and regulation of public services.<sup>478</sup> This led to accelerated progress in subsequent years as parallel programs were introduced in key areas such as health, interior affairs, and education. IctQATAR developed a strategic plan for the implementation of an integrated government program. This was done to provide an ICT enabled environment through legislation and policies pertaining to security and data protection.<sup>479</sup>

The Qatari e-Government site *Hukoomi* is the national portal (<http://portal.www.gov.qa>). It integrates back-office processes and offers access to more than 100 topics and articles with detailed information about Qatar and its

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<sup>476</sup> Shafi Al-Shafi and Vishanth Weerakkody, 'Implementing and managing e-government in the State of Qatar: a citizens' perspective' (2007) 4(4) *Electronic Government, an International Journal* 436.

<sup>477</sup> Al-Shafi and Weerakkody, above n 470.

<sup>478</sup> *Ibid.*

<sup>479</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

laws.<sup>480</sup> The site also offers many public services such as student school enrolments, payment options for traffic violations, online applications for visas and residency permits, and renewing health cards and licenses.<sup>481</sup>

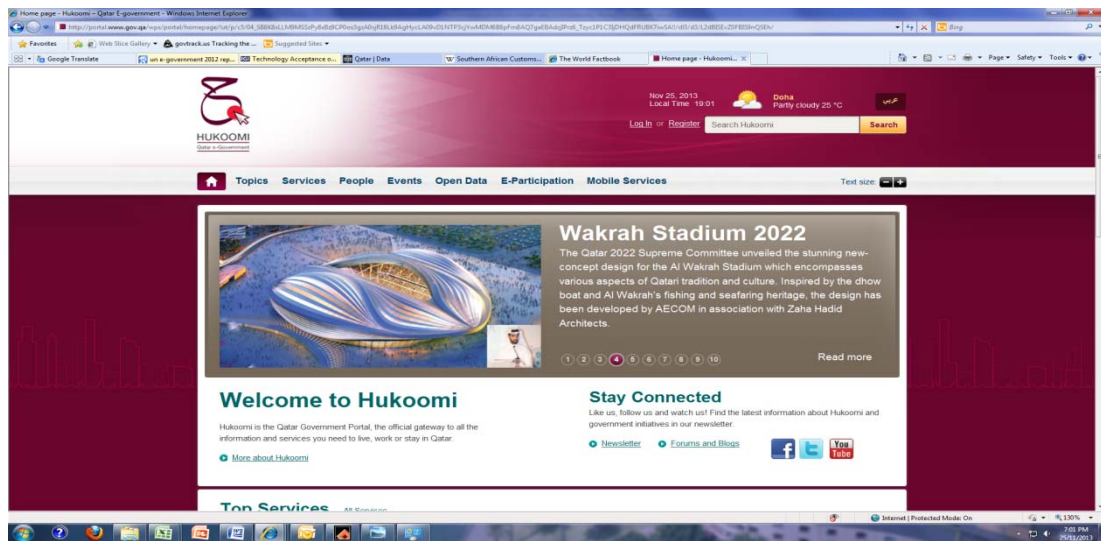


Figure 18 : A snapshot of Qatar's e-Government Portal (*Hukoomi*)

The portal also provides direct links to other government sub-portals that deal with e-tendering, recruitment and employment services, and operates as a hub for all links to application forms provided by a wide range of government ministries, departments and public sector agencies. *Hukoomi* is meant to improve efficiency, responsiveness, and to enable accessibility to government information and services to all citizens and residents of Qatar.<sup>482</sup>

### 5.2.1 Low e-Government Adoption, a persistent problem

Like many other countries, however, a combination of factors has resulted in the position that adoption of online services by the general public in Qatar is still lagging. The e-Government initiative has faced many serious challenges since its inception regardless of many major improvements and developments that have been carried out. Many scholars have observed that the adoption and diffusion of e-

<sup>480</sup> ictQatar, *Hukoomi, Qatar e-Government* <<http://portal.www.gov.qa/wps/portal/homepage>>

<sup>481</sup> Al-Shafi and Weerakkody, above n 470.

<sup>482</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

Government services has been slower than the Qatari government's expectations.<sup>483</sup> Citizens' adoption of e-Government in Qatar has been less than satisfactory, and progress towards an inclusive online society has proven to be very challenging.<sup>484</sup>

The United Nations 2012 e-Government survey refers to the existing body of knowledge that highlights the low public adoption and limited usability of e-Government system in Qatar.<sup>485</sup> The author's interviews with those responsible for the Qatari e-Government system confirm this low usage. Mr. Yazen Alsafi, Service Delivery Section Manager of Qatar's e-Government at ictQATAR states that 'much more effort needs to be exerted to raise the public awareness of e-Government in Qatar, as the usage levels are still very low'. This observation accords well with the existing body of knowledge about Qatar e-Government.

The only source of published information on e-Government in Qatar is government reports and publications. Despite their significance, these publications are somewhat biased, and neither provide an overall picture of the current situation in Qatar, nor do they highlight the challenges or the weaknesses of e-Government in the country. Consequently, this thesis makes reference only to academic resources with regard to the low public adoption of e-Government in Qatar.

Al-Shafi and Weerakkody conclude in their 2009 study, after an extensive exploration of e-Government adoption in the State of Qatar based on the Unified Theory of Acceptance and Use of Technology model, that 'e-Government has yet to mature in the State of Qatar since its inception in 2000'. They attribute the low adoption rate to the fact that citizens still do not fully trust e-Government, and are still concerned about the security of such systems.<sup>486</sup> In another study from 2007, they assert that, although Qatari e-Government efforts are considered best practice in the region as acknowledged by the United Nations, much more work needs to be done in terms of providing better, more value-added and user-friendly services that

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<sup>483</sup> Ibid; S. AlAwadhi and A. Morris, 'The Use of the UTAUT Model in the Adoption of E-government Services in Kuwait' (Paper presented at 2008); Mofleh and Wanous, above n 69.

<sup>484</sup> Shafi Al-Shafi and Vishanth Weerakkody, 'Factors affecting e-government adoption in the state of Qatar' (2010).

<sup>485</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

<sup>486</sup> Al-Shafi and Weerakkody, above n 470.

meet citizens' high expectations for e-Government.<sup>487</sup> Al-Shafi and Weerakody found in their third research study which involved surveying more than 1500 individuals, that despite Qatar's superior ICT infrastructure, the level of e-Government usage is still limited. They concluded that more effort is required in order to meet citizens' high expectations for e-Government. They assert that the Qatari government needs to develop an understanding of citizens' needs and perceptions, and then use this knowledge to develop a more citizen-centric e-Government system. They recommend that future effort be spent on conducting case-study based interviews with the government officials and project managers responsible for the initiative to better understand the government's perspective and to identify the gaps that may exist between the citizens' expectations and those of the relevant government bodies.

As a way of rectifying this persistent problem of low adoption, many developed countries have started to implement Open Government strategies. Some developing countries are also aiming to emulate these successful efforts in opening up their silos of information. Qatar is beginning to follow suit by introducing its 'Open Data' strategy as a way of further encouraging and strengthening citizen participation. It is hoped, on the basis of this current study, that e-Government in Qatar could be enhanced and further developed by implementing the basis of a new phase of OGD.

### **5.3 QATAR'S OPEN GOVERNMENT DATA**

Qatar has recently launched its OGD initiative as a new phase in the development of its e-Government systems. The Qatari government has adopted Open Data practices to make government data and information seamlessly available to all users. Under the guidelines, data will be accessible in the public domain for use and reuse, although, to date, documents are only available in both EXCEL and PDF formats.

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<sup>487</sup> Al-Shafi and Weerakkody, above n 470.

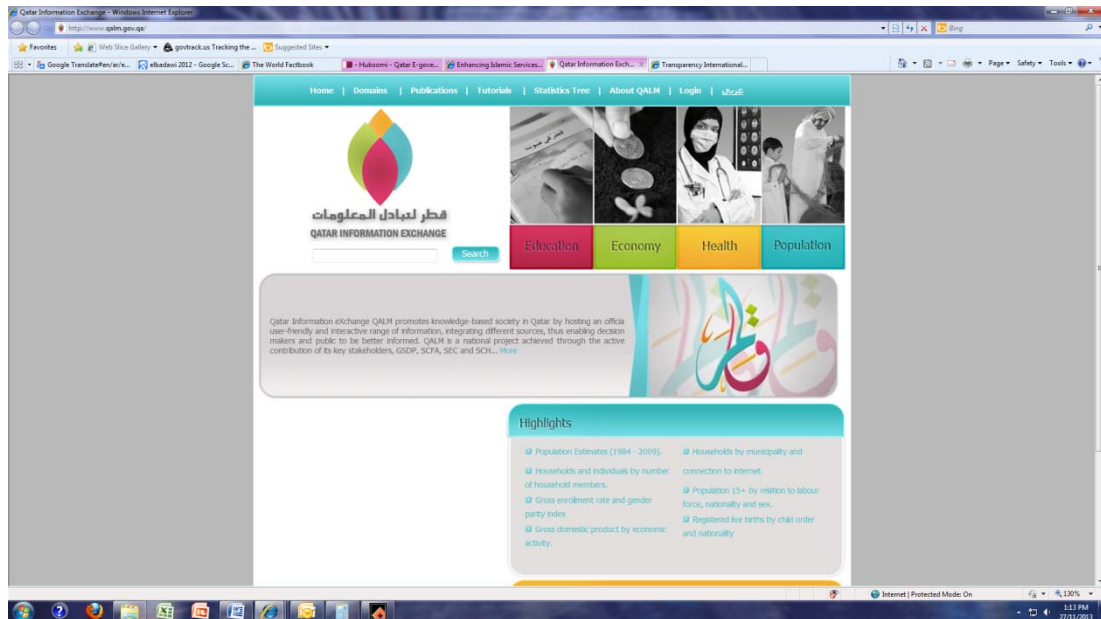


Figure 19 : A snapshot of the Qatari Open Data Portal (*Qalm.gov.qa*)

Qatar has set up a data portal (*Qalm*, which means pen in Arabic), to provide access to some government data and information. Qatar's e-Government welcomes all innovative usage of the data, and information available on the data portal. Setting up the data portal was a national project in which many government organisations participated including the General Secretariat for Development Planning, the Statistics Authority, the Supreme Council of Health, the Supreme Education Council, the Supreme Council of Family Affairs, ictQATAR, Ministerial Cabinet and the Permanent Population Committee.<sup>488</sup>

The main long term goal and objective of this ambitious project was to synchronise and harmonise all information produced by various government organisations in pursuit of Qatar's strategic planning goals for information management. Its interim objectives can be outlined as follows:-

- To provide a bilingual, integrated national data and information repository to support the creation of a knowledge-based society.
- To provide an agile data and government information architecture that is compliant with international technology and regulation standards.
- To support policy monitoring and performance evaluation, and to cater for the country's strategic information requirements of the country.

<sup>488</sup> Qatar Government, *Qatar's Data Portal* <<http://www.qalm.gov.qa/>>.

- To provide a secure access point for various types of government information.
- To support knowledge workers by enriching the scattered information collected from various government sources with a centralised location.

The evolution of the *Qalm* portal has been seen as improving Qatar's civic engagement plans because it enabled all citizens to access government information and services and to take part in decision-making process. This was done by providing various communication channels for citizens to share and express their views, suggestions, and feedback on government policies, decisions, and services, and by providing information derived from different government ministries and agencies, offered in a format that is easy for all to understand and use.<sup>489</sup>

#### 5.4 QALM: QATAR'S OPEN GOVERNMENT DATA ASSESSMENT

In this section of the study, the research aims to explore, evaluate and assess OGD initiative at both the strategy and policy levels, in order to answer the following subsidiary questions of this thesis:

- **What's the current status of OGD in Qatar? i.e.: how many Data sets are available now in *Qalm*, and in what format (PDF, XML, WORD, etc.)?**
- **What are the key driving forces for opening up government in the State of Qatar?**
- **What approach has Qatar followed to initiate and manage its OGD initiative?**
- **What are the key-challenges facing the OGD initiative in State of Qatar? And what are their plans to overcome them?**
- **How is OGD perceived in light of other IT priorities and practises?**
- **How will Qatari authorities sustain and enrich OGD practices in the future?**

The information sourced in answering questions was mainly collected through direct interviews with the Qatari government officials responsible for the OGD initiative, and through detailed reviews of the current status of Qatar's OGD portal.

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<sup>489</sup> ictQatar, above n 474.



Follow-up email interviews were also conducted to collect the latest information and recent updates. The discussion and findings on these questions are summarised below. This is based on an analysis of the feedback from the government officials, in light of a further review of the existing online OGD portal.

#### 5.4.1 The Current Presentation of Data in *Qalm*

The current status of government data and information presented in the national data portal of the State of Qatar can be evaluated based on the following main characteristics, and features:

- **Portal Positioning:** Is the national data sub-portal within the national e-government portal, or is it a separate standalone portal?
- **Portal Design:** Does the data portal store the datasets, functioning as a collection inventory site, or does it only link to datasets available at other government websites?
- **Data Format:** Is the data only available in PDF, WORD, etc. formats, or is it available in raw data formats?
- **Metadata:** Is there any sort of information explaining the actual available datasets in the data portal, or not?
- **Datasets Quantity and Organisation:** How many datasets are provided online and how are they being presented and organised?
- **Participation Mechanism:** Is there any sort of public participation, engagement, and discussions boards available and how successful are they for sharing of ideas and suggestions?
- **Collaboration Mechanism:** Is there a proper collaboration technique in place for solving current challenges, and further improving the existing data portal?

The research analysed the current Data portal to answer the above questions, to address the first question of this section's evaluation:

- **What's the current status of OGD in Qatar? i.e.: how many Datasets are available now in (*Qalm*), and in what format (PDF, XML, WORD, etc.)?**

The following table illustrates the outcome of that overall evaluation:

Table 4: Qatar's Data Portal (*Qalm*)'s Assessment Table

Qatar's Open Data Portal	
Authority	The Statistics Authority is the main Government Organisation overseeing the Data portal, ictQATAR works as a facilitator Only
Portal Website	<a href="http://www.qalm.gov.qa/">http://www.qalm.gov.qa/</a>
Portal Positioning	Separate Portal, as ictQATAR only provides a link to it in Qatar's e-Government portal ( <i>Hukoomi</i> )
Portal Design	All data is located in the portal itself, as it works as a warehouse for the datasets
Data Format	Data is provided though documents which are only available in both EXCEL and PDF formats
Metadata	Metadata is available but in a very limited usage, and in non sufficient details
Datasets Quantity and Organisation	Many datasets available and categorised in 11 different domains
Participation Mechanism	None in the Data portal, and only available as Discussions Forums and Blogs in the national e-Government portal but with almost NO effect as of January 2014
Collaboration Mechanism	None in the Data portal, and only available as Data Request in the national e-Government portal, where public can place requests for further datasets used as evidence for future data releases. Interim

updates will be provided on progress of requests on (*Hukoomi*)

Many of the available data sets are either in PDF or WORD format; whereas according to the definition of OGD by Europe's Digital Agenda,<sup>490</sup> PDFs cannot be considered as open data based on their format and reusability difficulties. Moreover, according to Sir Tim Berners-Lee, PDF files score only one star in his five stars Open Data deployment scheme. In a notable key speech on 26 May 2010, Berners-Lee proposed a five star assessment plan for Open Data, which has been adopted by public sector bodies as guidance in ensuring the usability of their published data. Based on Berners-Lee's rating system Open Data is assessed as follows:<sup>491</sup>

- ✚ No Star: when data is not available under open license even if it is available online.
- ✚ One Star: the data is available on the web, but it is in a closed document format such as in a PDF file.
- ✚ Two Stars: the data is available on the web, accessible in a structured machine-readable format, but it is reusable on proprietary software such as WORD or EXCEL.
- ✚ Three Stars: the data is available in reusable format without the need to rely on proprietary software such as having it in CSV instead of EXCEL.
- ✚ Four Stars: that's whenever the data is actually in the Web, and not on the Web, through the use of a unique URI (a Uniform Resource Identifier). This gives more control on the reuse of such data as it enables bookmarking and linking directly to that data.
- ✚ Five Stars: is where is not only present in the Web, but it is also linked to other data, which enables full exploitation of its network effects. Data gets

<sup>490</sup> European Commission, *Council Conclusions on scientific information in the digital age: access, dissemination and preservation*.

<[http://www.consilium.europa.eu/ueDocs/cms\\_Data/docs/pressData/en/intm/97236.pdf](http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/97236.pdf)>

<sup>491</sup> Tim Berners-Lee, *5 star deployment scheme for Open Data* <<http://5stardata.info/>>.

interconnected through this interlinking ability, so its value is increased exponentially.

Thus, offering data in PDF formats contradicts the main objective of Open Data as it makes it difficult for the public to consult or reuse that data, as ‘this situation could compromise the value of the entire portal’.<sup>492</sup>

#### 5.4.2 Key Driving Forces

Understanding the key factors that have led to the initiation of the OGD practices is important as these driving factors are often strongly related to the targeted objectives. Thus, identifying those factors, and assessing the extent to which they have been achieved to date (positively or negatively), assists in analysing the level of progress of OGD in the country.

To elicit information about these drivers of OGD in Qatar, in the direct interviews the officials responsible for the OGD initiatives were asked:

#### **What are the key driving forces for opening up government in the State of Qatar?**

According to Mr. Yazen Alsafi, Service Delivery Section Manager of Qatar’s e-Government at ictQATAR, there have been two main drivers behind the latest movements towards opening up government and exposing internal government data to the outside world.

- “The whole global movement towards opening up government data in the developed world starting from US, UK, and led partly by UN in the recent creation of the Open Government Partnership in 2011.”

The issuance of an Open Government directive by President Barack Obama on his first day in office was a major milestone. That was followed by the formation of the Open Government Partnership in September 2011 - another significant milestone in the pursuit of openness at the inter-governmental level. Another boost and a major breakthrough occurred in December 2011 when the European Commission announced its OGD strategy. These events have led many developing countries to start experimenting with Open Government and to follow suit. Qatar is no exception in this regard. .

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<sup>492</sup> Elbadawi, above n 369.

- “The other factor is the existing competition amongst members of the Gulf Cooperation Council.” (GCC: which is a political and economic union of Arab states bordering the Persian Gulf, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates)

Countries such as Bahrain, Saudi Arabia, and the United Arab Emirates (UAE) have all embarked on official OGD initiatives and started offering public data openly on their national portals with a view to attracting more foreign investment to further boost their economies. As they are all located in the same geographic area and are members of the same political union, there is a degree of competition or ongoing rivalry among them in providing effective and efficient services, which extends into the new area of Open Government.

Mr. Mansoor Ahmed Al Malki, Director of the Information Technology Department at the Statistics Authority (the official owner and government body responsible for Qatar’s Data Portal), confirmed that encouraging government interaction, public engagement, and increasing the overall government efficiency and integration is one of the major motives for opening up government data and information.

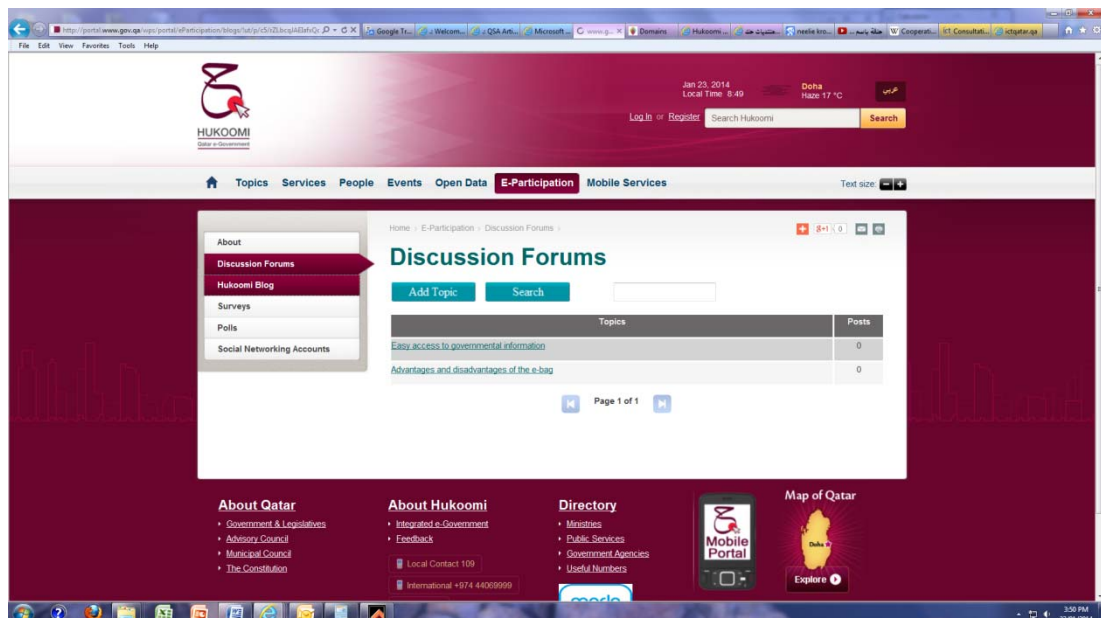


Figure 20: Low public participation in Discussion Forums and *Hukoomi* Blogs

However, as depicted in the screenshot of the Qatari e-Government portal in Figure 20 above, public engagement and participation levels with government blogs and various discussion forums are low. Public participation and the available mechanisms for collaboration need to be further improved if more effective public engagement and more efficient collaboration are to be realised.

Moreover, a large gap was found to exist between the ambitious goals of the OGD project, and the quantity and quality of the available published data on the Qatar OGD portal. As illustrated in Table 4, data is provided in the form of documents, which are only available in Excel, and PDF formats. However, according to the definition of OGD adopted in Europe's Digital Agenda<sup>493</sup> PDFs cannot be considered as open data because the data is not readily reusable. Providing data in these formats clearly contradicts with the main objective of opening up government data, and adversely affects the benefits to be gained from the OGD project. Basic economic data and fiscal information is still not available, as considered further in Chapter 6.

In light of the existing misalignment between the main purpose of establishing the OGD project and the current practices used to execute it on the Qatar OGD portal, there is a real need for a more robust and clear OGD strategy that outlines all aspects of an appropriately managed OGD initiative. This strategy should highlight the data that the government should publish, when will it published, how it will be published and in what format, and who is has responsibility for publication of the data on the portal. The strategy should provide overall guidance and a clear roadmap for a successful OGD initiative. The required strategy is further discussed in Chapter 6.

#### 5.4.3 Management Approach

Interviews conducted with Qatar government officials sought to elicit information about how the Qatar OGD initiative commenced and how it is being managed. The question asked was:

- **What approach has Qatar followed to initiate and manage OGD initiative?**

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<sup>493</sup> European Commission, *Council Conclusions on scientific information in the digital age: access, dissemination and preservation*  
 <[http://www.consilium.europa.eu/ueDocs/cms\\_Data/docs/pressData/en/intm/97236.pdf](http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/97236.pdf)>.

According to Mr. Yazen Alsafi, Service Delivery Section Manager of Qatar's e-Government at ictQATAR, the first step involved the Ministry of ICT 'working on Open Data policy and identifying the owner and stakeholders in the e-Government Transformation strategy'. He added that a guiding strategy for OGD has not yet been finalised, as the Qatar Statistics Authority has the mandate to access the data and 'most likely, they'll be the one owning this project, while MICT (Ministry of ICT) shall act as technology tanks'.

On the other hand, according to Mr. Mansoor Ahmed Al Malki, the Director of the Information Technology Department at the Statistics Authority, Qatar's approach so far has been to provide the data on a separate portal (*Qalm*) that is owned and managed by the Statistics Authority, which is the main government organisation responsible for operating it. IctQATAR's role is limited to that of a facilitator, as it merely provides a link to the data portal from Qatar's e-Government portal (*Hukoomi*). Mr. A Malki adds that 'according to the current amiri (royal) mandate, the Statistics Authority is fully authorised to request information from any agency or government body'. All published and available government data is located and stored in the national portal (*Qalm*), which functions as a warehouse for all the open-to-public government information.

Thus, developing an OGD framework will assist Qatar in determining the most appropriate and suitable way of publishing its internal data to the public. The OGD framework required for the success of the OGD project is considered further in Chapter 6.

#### **5.4.4 Key Challenges**

In the early stages of any new project, there are many challenges that impede and hinder its progress and further development. The existence of initial teething problems can adversely impact the entire project if they are not tackled and dealt with from the very beginning. Failure to deal appropriately with these issues may prevent the realisation of benefits that could be achieved, or result in less than optimal results which could compromise the whole objective — in this case the free and timely release of government data. To elicit information about the challenges faced in Qatar's OGD initiative, the interviews with Qatar government officials responsible for the project included the following question:

- **What are the key challenges facing the OGD initiative in State of Qatar? And what are the plans to overcome them?**

According to Mr Yazen Alsafi, the Open Data initiative is still very limited in the Qatar due to a poor understanding of the concept of Open Data: ‘Many government agencies are yet to grasp the meaning and lack the understanding of the importance of Open Data’, Based on his recent work on the project and the conceptualisation of the Open Data policy, Mr. Alsafi observes that the ‘very few government agencies who understand it, perceive it as a threat’. He attributes this to the conservative mentality that still exists broadly in Qatar in relation to OGD.

Moreover, Mr Alsafi further asserts that ‘transparency as a value has not yet been the focus of many government agencies in Qatar, which is one of the most important values in the whole concept of OGD initiatives worldwide’. He also points the lack of a clear vision regarding ownership of the project and responsibility for the Open Data platform. Mr Alsafi raises the important question of ‘who should be the real owner, Qatar Statistics Authority, Council of Ministries, or the Ministry of Information and Communication Technology (MICT, formerly known as ictQATAR)?’. He comments that ‘this should be resolved once the e-Government Transformation Strategy gets approved with the owner clearly identified’.

Mr Alsafi adds that another major obstacle hindering the further development of Open Data in Qatar is the lack of a ‘legal framework that governs data in terms of, both data protection and data access’. As discussed in section 4.6.1, a knowledge society is not possible without a proper legal system that underpins, fosters and regulates the management of data. The need for an appropriate legal framework to support Qatar’s OGD initiative is further considered in Chapter 6.

According to Mr Mansoor Ahmed Al Malki of the Qatar Statistics Authority, while the Statistics Authority has a mandate to initiate and manage the OGD initiative, ‘the mandate alone is not enough’. They still face many challenges arising from poor cooperation between government agencies. This is attributed to many factors, such as variations in different government agencies’ readiness, lack of the necessary policy and legislation, cultural barriers, and uncertainties about the value of OGD for the country amongst various government entities. Mr Al Malki raises the point that the OGD initiative stems from the perceived need to ‘keep government data updated, and synchronised’, and to provide a single portal where this current



information is available. He also calls for the need to conduct awareness sessions and other educational efforts to further promote OGD practices and culture.

All of the above challenges point to the need to establish a broader OGD strategy to address the issues and obstacles that hinder progress in the implementation of Qatar's OGD initiative. Such a strategy should not only target the public sector, but should aim to build relationships with private sector entities, entrepreneurs, academics, Non-Government Organisations (NGOs), and the general public to build an OGD community for the more successful and valuable use of government information assets.

#### **5.4.5 The Perception of Open Government Data (OGD)**

To understand the Qatar's government perspective on OGD developments, Qatar government officials were asked the following question:

- **How is OGD perceived in light of other IT priorities and practices?**

According to both Mr Yazen Alsafi and Mr Al Malki, many government agencies lack an informed perception of what it would mean to release their internal government data and information to the outside world. Many consider it to be a waste of time, lacking in any benefit, or even as a threat to their operations. Both officers emphasised the importance of education and awareness sessions to increase the level of understanding. All stakeholders from both the public and private sectors must be targeted to enhance awareness levels of Open Data's benefits to the society, and to the country as a whole.

Qatar has not yet applied to join the Open Government Partnership (OGP), and there is no current plan or proposal to do so. However, developments in countries that have led the way in OGD, such as the United States and the United Kingdom, as well as the EU's Digital Agenda for Europe, and recent international collaborations are considered as very significant sources of experience for many developing countries. Qatar should not exclude itself from these forums, having expressed its dedication towards openness and transparency. Learning from the pioneering experiences of countries in the developed world without neglecting and considering the local context is an important way for Qatar to develop more successful Open Data practices.

#### 5.4.6 Future Plans

The final question put to the officers responsible for Qatar's OGD initiative sought to elicit information about plans for further work relating to OGD:

- **How will Qatari authorities sustain and enrich OGD practices in the future?**

In an interview with Mrs Serene Fung Ying Ho, Government Policies and Standards Manager at the Ministry of Information and Communication Technology (MICT), she confirmed that the next step to be carried out in Qatar is the drafting of a policy on Open Data. She emphasised that having a clear guiding policy would boost the progress of Open Data practices and increase public participation. She further explained that 'we are now in the final stages of our draft policy, which will be issued for public consultation in the near future'. Mrs Ho also asserts that having consultations on the policy would increase the level of civic engagement and enhance the public's awareness of Open Data in general.

Mr Yazen Alsafi, on the other hand, argues that the immediate next step must be to deal with the current challenges described above and to try to overcome the obstacles that hinder Open Data implementation in Qatar. He emphasised that once an appropriate plan is in place for Qatar's Open Data portal, then sustainability measures could be considered in a later stage. Ironically, Mr Alsafi admits that 'currently *Qalm* is not a real Open Data portal, as the data it provides is basically processed data and not real raw data'.

### 5.5 QATAR'S OPEN GOVERNMENT DATA SUCCESS MODEL ANALYSIS

In this section, the current status of OGD in Qatar is examined and analysed by reference to the Open Government Data Success Model (OGDSM), which was proposed in Chapter 4 as a roadmap for successful open data implementation by governments.

#### 5.5.1 Top Level Support

Top-level support or leadership commitment is of vital importance for the success of any OGD, not only for the successful launch of the project, but also for its continuing sustainability. The political support of key decision makers in the country is necessary for the release of government data as well as to sustain meaningful civic engagement, and collaboration with citizens in open data platforms.

Identifying champions at the top level of the relevant society lays the ground for further improvement and enhancement of OGD projects. OGD initiatives in developed countries have shown great potential for successful implementation and continuity when they receive the backing of leadership figures. This is similarly the case in developing countries. If a Prime Minister, a Ruler, or a Governor of a country is genuinely interested in open data, conducting awareness raising projects and capacity building activities, and developing sustainability plans will be facilitated.

Leadership is a highly important driver for the vision of GGD and is required at the level of senior management as well as at the top political level. It is important because it signals a commitment to change and to ensuring that the stakeholders are practically engaged in improving the efficiency and the effectiveness of the government information that is disclosed. An OGD initiative that lacks committed leadership and political support is destined to fail, due to the higher risk associated with weak systems, poor quality information and ineffective responses to public demand.

The existence of a 'centre of gravity' is of a fundamental importance for any new technology policy or ICT strategy to succeed and develop.<sup>494</sup> Thus, developed countries have established central positions such as Chief Information Officer (CIO) and Chief Technology Officer (CTO) to boost their governments' plans for establishing open data platforms and to move forward along that trajectory.<sup>495</sup>

A CIO can ensure that a demand-, rather than a supply-driven approach is implemented and that appropriate applications are in place to elicit citizens' feedback so that a meaningful civic engagement is achieved. CIOs would and should be responsible for driving Open Government with effective plans and strategies. The CIO must ensure that the strategy is being accomplished in a smooth manner and identify any problems in the pursuit of Open Government, and address them accordingly. Moreover, the CIO should coordinate the relevant roles, responsibilities, and tasks of all government departments, and hold government bodies accountable for meeting information disclosure targets.

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<sup>494</sup> Janet Caldwell, 'The Quest for Electronic Government: A Defining Vision' (1999) *Institute for Electronic Government IBM Corporation*

<sup>495</sup> The White House, above n 396; UK Data Archive, above n 181.

Qatar's government launched its National Vision 2030 in October 2008 after intensive consultation across the community. According to the National Vision 2030, economic development (one of four main pillars of the vision) to progress and sustain economic diversification has to be achieved.<sup>496</sup> A knowledge-based economy, an efficient delivery of public services and a transparent and accountable government are some of the main features that characterise the envisaged economic diversification.

## Qatar's National vision 2030 support a solid grounding for eGovernment 2020 Master Plan...

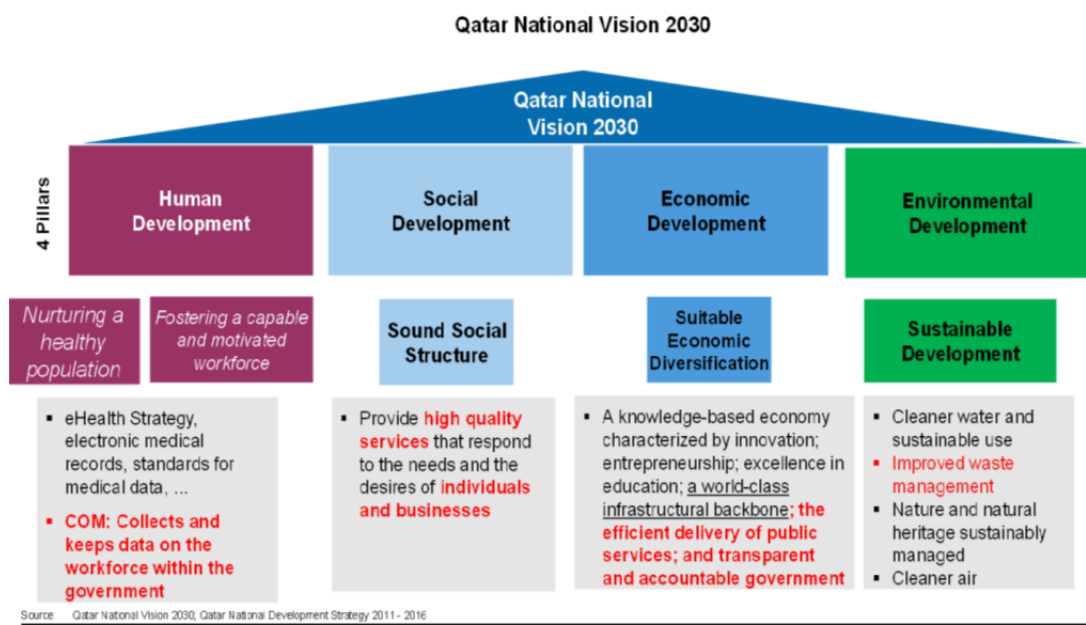


Figure 21: Qatar's National Vision 2030<sup>497</sup>

Based on the guiding principles of Qatar's Permanent Constitution that was ratified in 2004, the National Vision 2030 reflects the aspirations of the Qatari people and confirms the resolve and commitment of its top political leadership to a transparent and accountable government. The current Emir (Ruler) of Qatar confirms

<sup>496</sup> Qatar Government, *Qatar National Vision 2030*

<[http://www.qu.edu.qa/pharmacy/components/upcoming\\_events\\_material/Qatar\\_National\\_Vision\\_2030.pdf](http://www.qu.edu.qa/pharmacy/components/upcoming_events_material/Qatar_National_Vision_2030.pdf)>.

<sup>497</sup> Ibid.

in the Foreword to the Vision that ‘this requires continuous improvements in the efficiency, transparency and accountability of government agencies’.<sup>498</sup>

### 5.5.2 Digital Capacity (Civil-Society and Government)

This section considers the digital capacity of both government and the civil society entities that are to use and reuse the available government data for the common good.

#### *From the Civil Society perspective*

One of the main social development targets of Qatar’s National Vision 2030 is to establish a secure and stable society that operates on the principles of justice, equality, and the rule of law. Moreover, the Vision stresses that this target will only be achieved through effective public institutions and strong and active civil society organisations.<sup>499</sup>

To set a path towards achieving the goals of the Vision, the Qatari government published its first National Development Strategy 2011-2016 in March 2011. This strategy seeks to translate the Vision into specific actions and clear targets that represent the first wave of changes required for the country’s overall transformation. It identifies the most critical development goals and challenges, and outlines strategic initiatives to achieve these goals through a combination of top-down and bottom-up approaches.<sup>500</sup>

Qatar’s National Development Strategy confirms that there is an information gap in the country, observing that ‘there are data gaps in virtually all sectors’.<sup>501</sup> It acknowledges that, for the government to progress from strategies to tangible implementation, effort needs to be addressed towards closing that information gap.<sup>502</sup> The National Development Strategy calls for a strategic, systematic, and sustainable approach towards the collection and dissemination of government information.

Civil society cannot be motivated to engage with the government in collaborative development programs until it is meaningfully informed and granted

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<sup>498</sup> Ibid.

<sup>499</sup> Ibid.

<sup>500</sup> Qatar Government, *Qatar National Development Strategy 2011~2016* <[http://www.gsdp.gov.qa/portal/page/portal/gsdp\\_en/knowledge\\_center/Tab/Qatar\\_NDS\\_reprint\\_complete\\_lowres\\_16May.pdf](http://www.gsdp.gov.qa/portal/page/portal/gsdp_en/knowledge_center/Tab/Qatar_NDS_reprint_complete_lowres_16May.pdf)>.

<sup>501</sup> Ibid.

<sup>502</sup> Ibid.

free access to government data and information. Citizens, active members of civil society and even the private sector need access to better government information so that they can contribute more actively and effectively to Qatar's development efforts. The government, on the other hand, needs better data and information to direct its policy and decision-making processes. The government itself needs a better information management system to guide its project designs, allocate resources efficiently, monitor the progress of government programs and develop indicators to assess the achievement of its development goals. Thus, developing a proper and meaningful open data strategy will not only empower civil society to further engage with the government and utilise that data, but will also provide the government with the tools required to monitor and assess its own development goals.

***From the Government's perspective***

Since Internet services were first introduced into Qatar in 1997, the country has made huge strides in a quest to become the regional telecommunications hub. The Qatari government, with political will and financial resources, has created one of the most sophisticated Internet telecommunications infrastructures the Western Asia region and, indeed, worldwide.<sup>503</sup> The quality of Qatar's national public network system is rated among the highest in the world by the International Telecommunication Union.

The World Economic Forum's yearly Networked Readiness Index, which measures the propensity for countries to exploit opportunities offered by ICTs, ranked Qatar 23<sup>rd</sup> in the world in 2013, rising five places from the previous year. The Networked Readiness Index is used as a benchmark to indicate the impact that ICT has on a nation's competitiveness. It is a composite overall ranking based on three interrelated components, namely, the environment in which ICT is being harnessed by a given country, the readiness of the country's main users of ICT (individuals, government officials, and businesses), and the actual usage of ICT amongst those users.

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<sup>503</sup> Petri Rouvinen, 'Diffusion of digital mobile telephony: Are developing countries different?' (2006) 30(1) *Telecommunications Policy* 46.

	GTR 2010	GTR 2011	GTR 2012	GTR 2013
<b>NRI</b>	30	25	28	23

Table 5: Qatar's Networked Readiness Index Progress

Recently, the Qatari Government (represented by the Qatar National Library) signed a groundbreaking agreement with Springer, the leading global scientific publisher, which allows full accessibility to Springer's platform (*SpringerLink*). Under the agreement, Springer grants Qatar the rights to use one of the largest scientific, technical, and medical e-Book collections in the world.<sup>504</sup> The agreement provides for universal, countrywide access to Springer's electronic scientific content including eBooks and electronic journals, and other electronic collections. This means that any individual living in Qatar, with a valid Qatari Identity Card or a residency permit number, can register in Springer's library for free and access a vast wealth of electronic scientific digital content. As Dr Claudia Lux of the Qatar National Library asserts, this agreement 'will enable people to unlock their scientific potential and develop the skills that will support their participation in the global knowledge economy'.<sup>505</sup> The Qatari government considers this to be a key strategy in Qatar's transition from its carbon-based economy to a knowledge-based economy by providing a free access to valuable information to all residents of the country.

The Qatar National Library's agreement with Springer demonstrates the potential for Qatar's information infrastructure to be harnessed to enrich knowledge and deliver accessibility to a wealth of scientific information across the country. Qatar's digital infrastructure provides it with considerable advantages and is an important driving factor towards the implementation of open data and OGD initiatives.

### 5.5.3 Web 2.0 Involvement (Government 2.0)

As the demand for open access and open government becomes a global movement, many countries and public sector organisations have begun to use Web 2.0 tools to develop new channels of communication and interaction between government and citizens. This section considers the capabilities of Web 2.0 to

<sup>504</sup> Springer, *Qatar residents gain access to Springer's eBooks and online journals* <<http://www.springer.com/about+springer/media/pressreleases?SGWID=0-11002-6-1443543-0>>.

<sup>505</sup> Ibid.

increase the adoption of e-Government among Qatari citizens by opening up the government and making it more available to public scrutiny.

The Qatari government has supported the use of Web 2.0 and social media, as a means of reaching out to its citizens and establishing a feedback mechanism to engage with them in an open and positive dialogue. As discussed in Chapter 2, social media or Web 2.0 applications are not limited to the major networking websites such as Facebook, or YouTube. Web 2.0 includes many other applications such as forums, micro-blogging sites (Twitter), and bookmarking and sharing websites (Digg, Flickr, Delicious, etc.), all of which share the common attribute of using the power of the Internet to foster social communication.

The Qatari ICT policy and regulatory body, the Supreme Council of Information and Communication Technology (ictQATAR) that oversees Qatar's e-Government initiative, has established a presence on two major Web 2.0 websites, namely, Facebook and YouTube, as well as several other social media platforms. IctQATAR initiated its first presence in the world of social media in 2008 when it set up a Facebook page and a YouTube channel. Soon afterwards it became the first government entity in Qatar to establish a presence in an English-based forum, *Qatar Living*. Shortly after that, ictQATAR joined other popular Web 2.0 applications such as Twitter, Digg, Delicious and Flickr, and joined the Arabic-based forum *Qatar Shares*. By the middle of 2010, ictQATAR had an online presence on more than 19 Web 2.0 sites, and established two Arabic and English language blogging sites. The Qatar government's use of Web 2.0 applications (Facebook, Twitter and YouTube) is summarised in Table 6 below.<sup>506</sup>

Web 2.0 Application	Significance and Importance	Exploitation and Usage
Facebook	<p>The most popular Web 2.0 Application with the greatest strategic importance.</p> <p>More than 20K users in Qatar.</p> <p>Many entities in Qatar use it as</p>	<p>In 2008, ictQATAR established first Facebook account</p> <p>Content is mostly pictures and videos of latest ictQATAR events.</p> <p>Page traffic continues to grow,</p>

<sup>506</sup> ictQATAR, above n 474.



	<p>a brand marketing tool.</p> <p>Enticing Arabic-language users with almost 70% Arabic fans.</p> <p>Increased engagement with users by showcasing content from other sites.</p> <p>It has become a one-stop site for users to engage with Government.</p>	<p>with page views per week exceeding 1K in August 2010.</p> <p>Refers users to ictQATAR blog and e-Government website.</p> <p>Embedded YouTube channel within Facebook page to enable sharing and posting on users' pages.</p>
Twitter	<p>Proved to be effective tool for increasing the share of voice for Hukoomi (Qatar e-Government portal), and achieve active message penetration among users.</p> <p>More than 15K followers.</p> <p>#Hash tags have been used to leverage user interaction and organise users' streams.</p> <p>Simplest way to identify and reward active participants by following them or re-tweeting their comments to leverage their engagement.</p>	<p>Joined in early 2009 as the first Qatari government body to tweet.</p> <p>Twitter proved to be successful to boost interaction with social media users.</p> <p>Used for live-tweeting during ictQATAR events to enhance interaction and enlarge spontaneous real-time audience.</p> <p>Same hash tags can be used for promotional activities through Facebook and press releases.</p>
YouTube	<p>The world largest video-sharing internet website, where users upload, share, and view their videos.</p> <p>IctQATAR got exception grant from YouTube to post long videos (10mnts+).</p> <p>Raised awareness of E-Government portal in social media.</p>	<p>In March 2009, ictQATAR created a channel on YouTube to upload its footage events and multimedia content.</p> <p>First videos were mainly exclusive interviews with ICT experts worldwide.</p> <p>Embedded YouTube channel within Facebook page to enable sharing and posting on users' pages.</p>

Table 6 : Web 2.0 Implementations by the Qatari Government on Facebook, Twitter and YouTube

In Qatar, the top consumers of online media are young adults.<sup>507</sup> IDC, a global market research and advisory firm, has found that among Qatari citizens aged 25-29, participation on social media websites and the use of search engine websites are the most popular online activities. Moreover, 68% of Qataris in that age group access their social media accounts at least once a day, compared to 83% in the 20-24 years age group. Thus, implementation of social media and engaging with citizens in different age-groups is highly important and requires significant commitments of time, effort, and resources in a relatively young, untested, and rapidly evolving communication medium.<sup>508</sup>

Engaging with citizens from different backgrounds on social media is time-consuming and requires constant monitoring of sites and the ability to provide prompt and high quality responses on various issues. Qatar's e-Government tried to use social media extensively to strengthen its relationship with its users; however the experiences so far have proved to be unsuccessful. Without a formal strategy in place, ictQATAR faced many challenges and setbacks as it set about establishing new avenues of communication and dialogue with its citizens.<sup>509</sup> For example, there have been no posts at all in the Discussion Forums under the E-Participation tab of the e-Government portal since its inception (see Figure 22 below).

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<sup>507</sup> Jeffrey Ghannam, *Digital Media in the Arab World One Year After the Revolutions* (Center for International Media Assistance, 2012).

<sup>508</sup> ictQATAR, above n 474.

<sup>509</sup> Bimal Pratap Shah and Nena Lim, 'Using social media to increase e-government adoption in developing countries' (Paper presented at the Proceedings of the 5th International Conference on Theory and Practice of Electronic Governance, 2011).

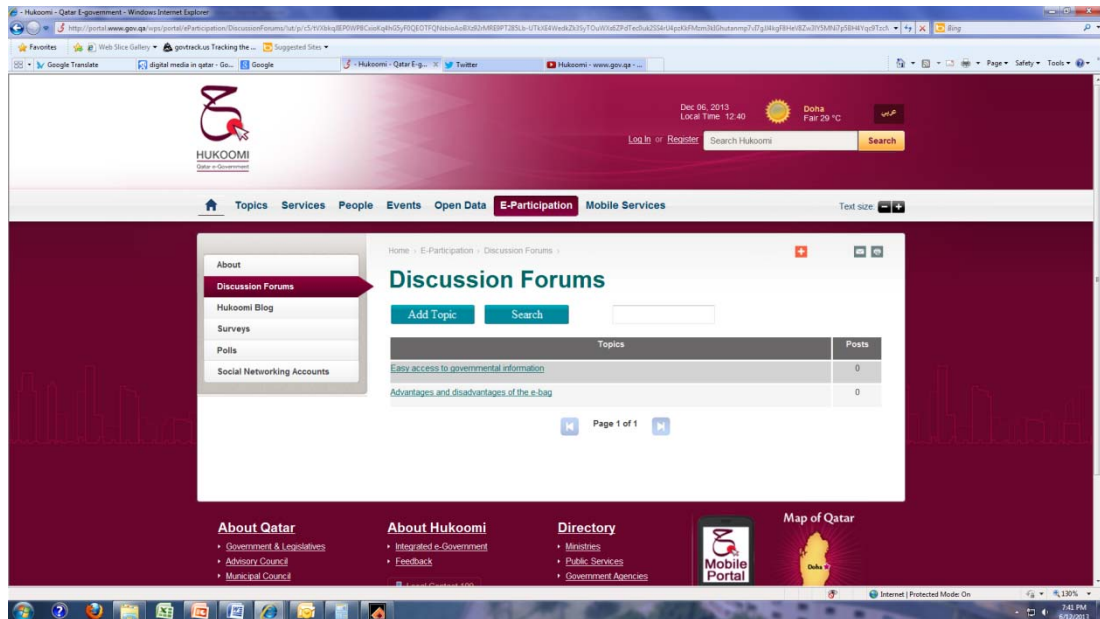


Figure 22 : Screen shot of the E-Participation tab of Qatar’s e-Government portal (*Hukoomi*), showing no posts in the Discussion Forums

This thesis contends that providing more access to government data and information for citizens freely and in machine-readable format will boost the use of social media in e-Government systems. Web 2.0 and social media applications are designed to progress and evolve through the use of more available data and information. Data is the “fuel” required by these applications and the lack availability of government data will result in the under-utilisation of Web 2.0 initiatives by the Qatari government.

#### 5.5.4 Legal Infrastructure

Unlike many countries in the developed world (e.g. the United States, the United Kingdom, most European countries and Australia), many countries in the developing world have not yet enacted legislation that facilitates public access to government data and information. Specifically, Qatar has not yet introduced Freedom of Information laws. The absence of such laws means that Qatar has not yet formally recognised an open public right to access and re-use publicly funded government information. That is, the right of access to official information is still lacking. The legal and regulatory landscape in Qatar has not yet caught up with the changes brought by the publication of OGD on Qatar’s e-Government portal. In this respect, Qatar is in a similar position to many countries in the developing world,

which also lack Freedom of Information laws, as depicted by Privacy International in Figure 23 below.

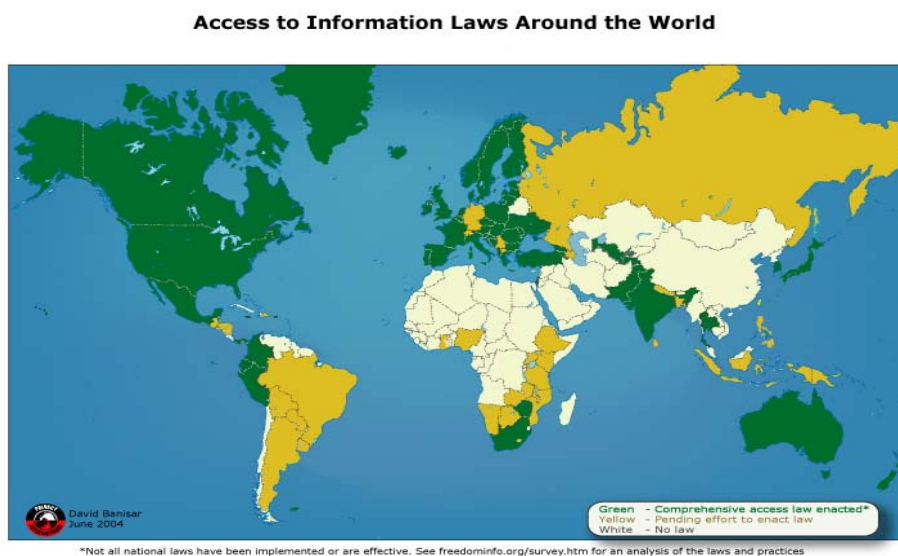


Figure 23: FOI Situation throughout the World<sup>510</sup>

The adoption of an appropriate legal framework is particularly important in the context of Open Government and OGD initiatives. The success of opening-up government silos of data and information depends largely on the underlying legal framework. A balanced legal system that provides citizens with rights to request information held by governments, and that actively motivates government bodies to adopt a presumption in favour of disclosure when dealing with government data and information, is a pre-requisite to be able to successfully pursue an OGD trajectory. In Qatar, calls for more transparent and accountable government under the National Vision 2030 cannot be plausible unless affirmative steps are taken to maximise the amount of government information available to the public, through the introduction of strong information disclosure laws.<sup>511</sup>

Freedom of Information is central to good governance because it is part of the very foundations of democracy. Efforts to enact such laws usually span many years, particularly in developing countries. In Nigeria, for example, the campaign for such

<sup>510</sup> David Banisar, *Privacy International's World FOIA Laws map* Harvard University  
<<http://fs.huntingdon.edu/jlewis/FOIA/PrivInt/FOIAmmapWorld04.htm>>

<sup>511</sup> Qatar Government, above n 494.

laws commenced in 1999, but did not result in the enactment of FOI legislation until 2011. The experience has been similar in other African countries, such as Ghana, where a campaign that began more than 10 years ago has so far only achieved the tabling of a draft bill, which has not yet been enacted.<sup>512</sup>

The United Nations' e-Government survey of 2012 shows that in 1990, only 13 countries worldwide had enacted FOI laws, whereas by 2012, 90 countries (48% of the 193 members of the United Nations) had FOI laws. As for the rest of the United Nations member states, there are still 55 countries (28%) with no FOI legislation, 26 (13%) with draft legislation and 22 countries (11%) with only a FOI article in their constitution.<sup>513</sup>

While Qatar's National Vision 2030 admits the existence of a knowledge gap in the society, the government has not yet undertaken focussed efforts towards formulating FOI laws. The Qatari government must acknowledge the need for FOI laws that grant citizens the right to access data and information held by public bodies. Qatari citizens need to be able hold their government accountable and responsible, and this will only be possible if they have greater access to information about their government's activities. There is a pressing need for a more sustained and informed campaign for the introduction of FOI laws in Qatar.

As the American President, James Madison - hailed as the 'Father of the American Constitution' for his instrumental role in drafting and authoring the United States Bill of Rights – wrote:

A popular government, without popular information or the means to acquiring it is but a prologue to a farce or a tragedy; or perhaps both. Knowledge will forever govern ignorance. And a people who mean to be their own governors, must arm themselves with the power knowledge gives.<sup>514</sup>

## 5.6 CONCLUSION

Qatar has huge potential to create a successful OGD system based on its top-level support for its National Vision 2030, together with its significant digital

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<sup>512</sup> United Nations Public Administration Network Africa, *There is Goodwill for Freedom of Information*  
<<http://www.unpan.org/PublicAdministrationNews/tabid/113/mctl/ArticleView/ModuleID/1460/articleId/33332/default.aspx>>.

<sup>513</sup> Ibid.

<sup>514</sup> Thomas I Emerson, 'Legal foundations of the right to know' (1976) *Wash. ULQ* 1.

capacity. However, effort is now needed to formulate a legal framework to underpin Qatar's OGD initiative and to increase the accessibility of government data and information. The Qatari government has high expectations for the return on its investment in its ambitious OGD initiative, and the current status of its Open Data portal is a very promising first step. However, further work needs to be done to improve that portal if it is to meet the government's high expectations.

# Chapter 6: Conclusion and Final Recommendations

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## 6.1 OVERVIEW

From the detailed analysis of OGD in this thesis, the significance of openness and open access to government information and data is clearly apparent. This research has sought to fill a gap in the existing body of knowledge in the context of developing countries, and to identify different ways of harnessing ICTs to open up government information and better utilise e-Government services.

OGD can be seen as part of a new phase of e-Government programs. It opens up new avenues for e-Government and helps to realise the ultimate goals of e-Government systems. Identifying plans to overcome any challenges that hinder OGD progress in developing countries is of vital importance for the initiative to succeed and prosper. Future plans to sustain and improve current OGD programs need to be formulated and developed into strategies. Poor cooperation between government bodies in exposing their internal information, low quality of published data, and lack of necessary policy and legislation are some of the many major challenges that need to be dealt with for an Open Government Data initiative to be successful.

Since the aim of this thesis is to promote and increase the openness of government, the real significance of the research will lie in devising a road map for developing countries to achieve an open and inclusive government. Considering the current status of OGD in Qatar, the following sections will outline the requisite procedures and guidelines in the form of broad recommendations. These recommendations were developed based on a thorough analysis through interviews and a comparative study of Qatar's Open Data portal with OGD initiatives in developed countries.

As Qatar is currently developing a new version of its Open Data portal, the recommendations in this chapter would, if implemented, improve and enhance Qatar's OGD initiative.

## 6.2 CIVIC PARTICIPATION IN QATAR – POTENTIAL ENGAGEMENT WITH OGD

There is little by way of precedent to indicate the extent to which Qataris will adopt and engage with the nascent OGD practices in their country.

Qatar is not, and traditionally has not been, a democracy and it may be the case that citizens have had limited opportunities for civic engagement. However, there are factors that indicate that Qataris will readily embrace OGD practices, if they are introduced properly and efficiently. In recent years, Qatar has undergone huge transformations through political reform, as compared to other countries in the region. The Qatari Government has expressed its determination to engage positively and dynamically with its constituents to achieve political reform, in a manner that is unprecedented in the region.

The significance of active civic engagement to the success of any government information initiatives, let alone the newly introduced OGD practises, is not debated. This section investigates the existing levels of public participation and civic engagement in Qatar. This will be done to explore the potential capacity of the civil society to accept and promote OGD initiative in Qatar.

Under the reign of the Emir, Sheikh Hamad Bin Khalifa Al-Thani, Qatar has undergone substantial liberalisation in recent years compared to other countries in its region (The Middle East). The first democratic municipal elections in Qatar's history were held in March 1999 to elect the Central Municipal Council, for a period of four-years round, which was created as a single nationwide municipal body. The Council is responsible of supervising all laws and resolutions, and providing consultations and advice to the Cabinet, however the Council does not exercise any formal authority over any policy. Elections were open to all citizens of Qatar, both men and women, over the age of 18. Women were also allowed to take part in the municipal elections as candidates, as well as voters.<sup>515</sup>

The International Foundation for Election Systems (IFES) worked along with local authorities to run and educate the people of Qatar on the election process. Overall turnout was not as high as initially expected, with a percentage of around 55% of eligible voters. Candidates were allowed and encouraged to hold their

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<sup>515</sup> The United Nations Development Programme, *Programme on Governance in the Arab Region* <<http://www.undp-pogar.org/countries/theme.aspx?t=3&cid=15>>



campaigns in a variety of forms including direct broadcast radio programs, TV speeches, and public meetings. Three further rounds of municipal elections were held in 2003, 2007, and 2011, although the public's enthusiasm for the elections was lower than that in 1999 based on the fact that the Municipal Council has no executive powers at all, and that it is limited only to supervisory and advisory roles.<sup>516</sup>

In 2002, The Emir (The Ruler of Qatar) himself announced the creation of the National Human Rights Committee comprised of members from the government sector as well as the civil society. That committee has drawn the attention to violations of the rights of foreign workers in Qatar, and called for a new labour law to be formulated in the country to replace the existing one.

Moreover, one year later a national referendum was held in April 2003 to approve Qatar's first written constitution, replacing the Provisional Political Order of 1972. The voter turnout reached almost 85%, and the constitution was approved with over 98% in its favour. The new constitution ushered in major changes to the electoral system by providing for the election of a new Parliament with full legislative powers. The constitution establishes a 45 member Advisory Council (The Parliament), two thirds of which is to be publicly elected with the rest being appointed by the Ruler (The Emir) of Qatar. The proposed Parliament will be able to question ministers, and subject them to votes of no confidence. The Parliament will also have the power and the capacity to vote and legislate on the budget. It is believed that the Parliament will boost the current low civic engagement in the State of Qatar to higher levels, and take the country to new horizons of democratization once it is established.<sup>517</sup>

Qatar has strong technological capacity; nevertheless, the current limited civic engagement, and low levels of public participation have adverse impacts on the country's overall readiness to extract benefits from OGD initiatives, and Open Data practises. Without a strong and robust civil society enabled and powered with secure rights to information, it is extremely unlikely that the benefits of transparency and accountability in the government will be attained.

Qatar's first ever World Values Survey (QWVS) administered in December 2010 by the Social and Economic Survey Research Institute (SESRI) of Qatar

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<sup>516</sup> Ibid.

<sup>517</sup> Ibid.

University confirms that civic participation in Qatar is not only associated with reduced support for democracy itself, but also with a disproportionate lack of essential values such as confidence in government institutions and social tolerance. Qatari Government is required to establish links to further boost the civic engagement and increase the public participation in the country for the common public good of all. Implementing a proper full-fledged, and well-designed OGD practise is nothing but, the best and easiest way to initiate that link.

Finally, there is great potential for successful and sustainable OGD practices in Qatar. Along with increasing public participation in the country through engaging with citizens, the OGD success factors have to be achieved if the initiative is to flourish and prosper. Important factors include developing the required laws and regulations that support and enable people's right to information. Other factors such as the existence of an effective OGD strategy that guides the overall project, and the formulation of a detailed OGD framework that explains thoroughly the responsibilities of various government departments are also vital for the success of the OGD initiative. Moreover, establishing dynamic Web 2.0 interaction channels between the government and the citizen is instrumental for a successful OGD initiative. Channels of communication that facilitate prompt, easy, and real-time interaction between the two parties are of extreme and vital importance for the project's long-time sustainability and progress.

The government has the responsibility of building fully-fledged OGD systems embracing and implementing all the necessary success factors; otherwise OGD's sustainability and the initiative's continuity in the future will be cast into doubt. With continuing progress in levels of civic engagement in the country, the OGD initiative will have an enhanced opportunity to gain popular acceptance and a greater likelihood of success.

### **6.3 THE CURRENT STATUS QATAR'S GOVERNMENT DATA AND THE WAY FORWARD - IS (OGD) A NECESSITY OR JUST AN ABSTRACT GOOD?**

Qatar's Government National Vision 2030 emphasises that for sustainable economic development it will be necessary to achieve economic diversification.<sup>518</sup>.

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<sup>518</sup> Qatar Government, above n 494.

That diversification must be characterised by a knowledge-based economy, an efficient delivery of public services and a transparent and accountable government.

According to Qatar's first National Development Strategy 2011-2016, published in March 2011 to spearhead the government's plans for achieving the goals of the Qatar National Vision 2030, there is a lack of government information available to the public. The Strategy recognises that there is an information gap that needs to be resolved. It also confirms that in order for the government to progress from strategies to tangible implementation, a number of steps are urgently required to reduce that information gap.<sup>519</sup> It confirms explicitly that 'there are data gaps in virtually all sectors'.<sup>520</sup> Thus, successful implementation of the Strategy will require closing the existing information gaps as a starting point. There are many calls in the National Development Strategy for a systematic and sustainable approach for collecting and disseminating government information.

The above aligns with the findings of the International Budget Partnership's extensive research surveying around 100 selected countries worldwide in 2012. That survey is the only independent, comparative, and regular measure of budget transparency and accountability around the world, which is produced every two years by experts external to government. The Open Budget Survey assesses whether the government makes key budget documents available, and whether its data is comprehensive, timely, and useful. To do so, the survey uses international approved criteria developed by multilateral organizations such as the International Monetary Fund (IMF), the Organization for Economic Co-operation and Development (OECD), and the International Organization of Supreme Audit Institutions (INTOSAI).<sup>521</sup>

According to that survey, Qatar scores 0 out of 100 on the Open Budget Index of 2012, which is well below the average score of 43 for all 100 countries surveyed. This indicates that the government provides the public with very scant information on the central government's budget and financial activities and makes it very

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<sup>519</sup> Ibid.

<sup>520</sup> Ibid.

<sup>521</sup> International Budget Partnership, *Open Budget Survey* <<http://internationalbudget.org/wp-content/uploads/OBI2012-QatarCS-English.pdf>>.

challenging to hold the government accountable for all its various fiscal operations.<sup>522</sup>

Moreover, the Open Budget survey assessed the opportunities available to the public to participate in the budget decision-making processes in order to enhance the civic engagement in Qatar. However based on its public participation indicators, the Open Budget survey confirms that the opportunities for public participation in the budget process in the State of Qatar are very weak. The survey concludes by recommending Qatar expand its public engagement as well as increasing the low levels of openness and transparency in its fiscal activities, for a better and enhanced experience of OGD by its citizens.

In summary, implementing openness in government and enabling greater public access to government data and information would not only enhance transparency levels, but is also a prerequisite towards achieving the goals of Qatar's ambitious National Vision 2030.

#### **6.4 THESIS RECOMMENDATIONS**

This chapter provides the main conclusions and final recommendations of this research for the State of Qatar in particular, and for developing countries in general with the aim of promoting a better, more meaningful and sustainable experience of OGD. The main recommendations are as follows:

##### **6.4.1 Recommendation 1: Development of an Open Government Data Strategy**

Like many developing countries which are in the early stages of OGD, Qatar has not yet published or declared a strategy for its OGD initiative. While Qatar's OGD portal highlights some of main objectives of Open Data, there is no official strategy that positions OGD in the context of Qatar's political, social, and economic priorities.

Such a strategy is much needed and highly significant as it synthesises a unified message about OGD. It would not only increase the chances of the OGD project's success over the short-to-medium term, but would also improve its likelihood of being sustainable over the longer term. Poor cooperation among different government agencies could be remedied by adopting a strategy that

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<sup>522</sup> Ibid.

encourages all government entities to contribute towards OGD efforts. The strategy should include clear and specific action plans, across multiple timeframes (short-, medium-, and long-term), and clearly assigns targets to be achieved at each stage in the development of the OGD project.

The proposed strategy must address the following issues: -

- **The concept and scope of OGD:** The strategy must define what is meant by ‘Open Government Data’ and clearly articulate what government data and information falls within the scope of the definition. All government bodies and public sector entities should apply that definition, and be aware of any information to be exempted from disclosure, provided there is an appropriate justification for withholding it.
- **Copyright constraints:** The strategy must recognise and respect the intellectual property rights of information and data producers. Open access preserves and recognises the proprietary rights of the creators of the data. However, as far as can be ascertained, to date no licensing scheme has been adopted for Qatari government websites. Proper licensing practices must be introduced - for example Creative Commons licences - to support a legal and technical infrastructure that maximizes digital creativity, sharing, and innovation.
- **Privacy constraints:** The issue of privacy is of major significance as failure to embrace appropriate measures to preserve and protect individuals’ privacy rights is likely to delay or prevent the release of government data and information. The strategy must clearly and explicitly confirm that all government data and information releases must be anonymous and that datasets cannot be used either separately or in combination to identify individuals whose personal information is included in the disclosed data.
- **The reliability of OGD:** The strategy must emphasise the importance of the integrity and reliability of government data. Proper measures must be implemented to keep the information published on the OGD portal current and accurate, with regular quarterly updates.

Qatar’s National Vision 2030 asserts that Qatar needs to become an efficient and transparent knowledge-based society. It is highly important in the long-term for Qatar to create an open, transparent culture where knowledge bases are kept current and easily accessible. This will in turn build up a capacity for sharing, processing, and analysing information. The proposed OGD strategy would help Qatar to improve government transparency, public participation, and civic engagement, which will assist in achievement of the national development goals based on National Vision 2030.

Currently, Qatar does not have a strategy that conveys a unified message about OGD. The disjunct that presently exists between the purpose of Qatar’s OGD project and its limited implementation on the OGD portal can be attributed in large part to the absence of such a strategy. Formulation of a broad strategy that offers the requisite guidance (what data should be released to public, how, when will be it available, etc.) would be an important step forward in remedying the current misalignment.

As a way of increasing the level of government transparency and strengthening citizens’ trust of and engagement with their government, Qatar must embrace the OGD strategy as an integral and prominent part of its e-Government programs. The main foci of the strategy are summarised in Table 7 below.

<b>Qatar’s Open Government Data Strategy</b>	
<b>A clear and unified definition for OGD</b>	This will have a direct impact on disseminating and increasing awareness of OGD
<b>Copy right Constraints</b>	Proper licensing must be implemented to steward and preserve the creators’ rights in OGD without hindering its usability
<b>Privacy Constraints</b>	Privacy must be not compromised in the dissemination and implementation of OGD
<b>Short, medium, and long-term</b>	Self-assessment progress reports must be

<p><b>objectives outlined in the main Strategy pertaining to data releases, and OGD commitments</b></p>	<p>published and announced to the public. Progress assessment must be carried out by other independent organisations, to gauge the delivery of the Strategy's objectives against those initially outlined.</p>
<p><b>Principles of Transparency and Accountability</b></p>	<p>The Strategy must promote transparency and accountability principles in all government-funded projects and operational transactions, embracing openness and OGD to give effect to these principles across all government bodies</p>

Table 7: Open Government Data Strategy's main foci

#### 6.4.2 Recommendation 2: Formulation of an Open Government Data Framework

The second important recommendation is the formulation of an OGD framework, to follow the development of the OGD strategy. The OGD framework can be regarded as an action-plan, blueprint, or general agenda that outlines the most appropriate way of publishing and managing the government's public data. The framework differs from the strategy in that it addresses practical implementation details, whereas the strategy provides general guidelines.

The framework should provide the government with detailed implementation guidance, along with a detailed plan that assigns specific roles and responsibilities to government organisations for all aspects of the OGD portal. The OGD framework would include important parameters and constructs such as, but not limited to, the following:

- The ownership of the data portal: In Qatar, the issue between the Statistics Authority and MICT (ictQATAR) has to be clarified and clearly addressed. The dedicated owner of the project should be confirmed, so that responsibilities can be allocated and the nominated agency held accountable for flaws or misconduct in the implementation of the open data system. All government bodies and organisations must

have clear roles and responsibilities regarding timely data disclosure, with fine acceptable measures of data sets' value.

- The data format: To date, the Qatar OGD portal provides data only in the form of PDF and Word documents. While this may be acceptable in the early stages of OGD implementation, the ultimate goal must be to provide all government data and information in a machine-readable format so that that can be used, reused and redistributed to realise the real benefits of OGD.
- The quantity and organisation of datasets: At present, only a limited number of datasets of low strategic value are available on the Qatar OGD portal. Government information disclosures must be demand-driven rather than supply-driven. Instead of having government bodies release what they believe is right for them to disclose (and they will mostly choose datasets which cost the least effort to release), the OGD framework must establish steps for engaging with the public so they can identify what government information they need to use. Doing so will not only increase the strategic value of the datasets released, but also it will increase the system's sustainability and growth over time.
- A collaboration and participation mechanism: Poor civic engagement and low participation levels are evident in Qatar's current OGD practices. The OGD framework needs to foster more public participation and civic engagement, to identify high-value and in-demand datasets and to distribute the benefits gained by utilising these datasets more widely.

Thus, as much as Qatar needs an OGD strategy, it must also formulate an effective OGD framework. The proper implementation of these two steps could enable Qatar's current limited efforts with OGD to progress to the next level. The main foci of the proposed Qatar OGD framework are summarised in Table 8 below.

<b>Qatar's Open Government Data Framework</b>	
<b>Launching Qatar's first ever:</b>	The framework is initiated by



<p>(((<i>Data.gov.qa</i>)))</p> <p>in an ongoing beta version for regular updates, and enhancement</p>	<p>establishing one portal for all government information that is OGD-compliant, with a dedicated government body overseeing and owning the project</p>
<p>Improving the quality and quantity of the available datasets on Qatar's OGD portal</p>	<p>The framework must provide datasets in machine-readable open formats, rather than PDF or WORD files, for optimum usability purposes; the Qatari Government must mandate all local authorities to release key information and significant datasets into the public domain</p>
<p>Increasing public participation, and enhancing civic engagement in order to achieve demand-driven OGD practices and culture, rather than a purely supply-driven approach</p>	<p>The Qatari Government must improve the quality of the information available to citizens by enabling them to participate fully in assessing and demanding the needed datasets, and soliciting their feedback</p>
<p>Strengthening the OGD culture and enhancing awareness of it</p>	<p>The framework must demonstrate the potential of OGD by implementing pilot projects across various kinds of government information, with the aim of identifying innovative and effective ways of engaging the public in OGD practices</p>

Table 8: Open Government Data Framework main foci

#### 6.4.3 Recommendation 3: Development of a Legislative Framework for the Knowledge Society (The Legislation Gap)

A successful OGD initiative is not possible without the existence of an appropriate legal framework to underpin and support access to government data and information. Article 19 of the United Nations Universal Declaration of Human Rights acknowledges the fundamental right of the individual to receive and distribute

available information.<sup>523</sup> Moreover, the 2002 Civil Society Declaration on Information Technology affirms the right of every individual in a society to receive, participate in, and exchange data and information by any medium in order to enjoy the benefits of the information society. It explicitly declares that no one must be excluded from exercising this basic right.<sup>524</sup>

FOI laws, which regulate and control the disclosure of government-held data and information, are of particular relevance to OGD. They entitle citizens to gain access to government information, and define the proper avenues for seeking that access. Moreover, FOI laws often identify specific exemptions in order to reasonably limit that public accessibility to government information where a public interest is at stake.

OGD projects cannot be fully materialised unless they based on lawful access to government information, such as the rights provided by FOI legislation. The United Nation's e-Government survey of 2012 asserts that 'FOI is an important cornerstone of open data use because the latter can only take place when there is a right to access government information'.<sup>525</sup>

In Qatar, the government has neither introduced FOI laws nor enacted specific legislation relating to the public's rights to access government data and information. However, calls for more transparent and accountable government in accordance with Qatar's National Vision 2030 are not realistic unless the government formulates and enacts strong information disclosure laws, in the form of FOI or Right to Information legislation.

The development of the required 'legislation for the knowledge society' represents a major step towards remedying the existing legislation gap. The task of reviewing and identifying any needed modifications in the legal system, and the development of legislation to guarantee public access to government information, is a significant step in providing the legal infrastructure needed to underpin a successful OGD initiative.

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<sup>523</sup> Morsink, above n 300.

<sup>524</sup> Raboy above n 295 ; Raboy and Landry, above n 301.

<sup>525</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

<b>Qatar's Open Government Legislative Framework</b>	
<b>Ensuring a strong legislative framework</b>	The Qatari government must develop the current legal system, and modify it in line with Article 19 of UN Universal Declaration of Human Rights
<b>Empowering the general public with the right to information and government data</b>	The Qatari government must strive to enact access to information laws that guarantee the public accessibility right as it is fundamental to the success of OGD practices
<b>Fostering public participation and civic involvement</b>	The Qatari government must publish the proposed FOI laws on its e-Government websites in order to elicit public feedback and engage in consultation.
<b>Strengthening civic engagement in the legal arena through implementing Creative Commons licensing, for example, on government data and information</b>	The Qatari government must make all legislative data available to the public in an open and accessible format to enable it to be lawfully reused

Table 9: Qatar's Open Government Legislative Framework main foci

#### **6.4.4 Recommendation 4: Building an Open Data Community**

There is a pressing need to strengthen Qatar's civil society community around Open Data for the consistent progress of the initiative in the short-term and for its sustainability and development over the long term. In forming an Open Data community, members of the community must be provided with information. Civil society members will not be motivated to engage with government unless they are enabled with free access to government data and information. Citizens, civil society members, non-for-profit organisations, academic institutions, and the private sector

need access to better government information so that they can contribute more actively and effectively to Qatar’s development efforts.

Empowering the civil society to further engage with the government and utilise the data, and equipping citizens with the required information access will result in more informed citizens and lead to the development of an Open Data community. This enhanced public participation and increased civic engagement will lead to a more efficient Open Data experience. Citizens play a major role in this Open Data community model, by supporting quality assurance, moderation, and demanding the most needed data releases.

An Open Data community is essential for the development and sustainability of OGD practices in Qatar. It cannot be taken for granted but must be proactively cultivated. Qatar has to reach out to collaborate with other stakeholders outside the public sector domain who might be targeted by various OGD developments. Societal educational and community awareness programs must be conducted to communicate the OGD message and further promote to the community. These promotional programs should go beyond the public sector to include all the parties interested in Open Data, including the private sector, to foster the development of an OGD culture. Large strides must be taken to ensure that the intended benefits of OGD may be realised through an active interaction with strong and powerful Open Data community members.

The building of such an Open Data Community through promotional campaigns and public activities is a powerful tool for enriching OGD practice and will also increase the chances of its growth and sustainability over the long term. Education plays a major role in creating a more informed citizenry, which can interact with the government to harness the potential power of data in greater depth and with better understanding.

<b>Qatar’s Open Data Community</b>	
<b>Cultivating an Open Data Community by partnering with civil society for more accountable and responsive</b>	The Qatari government must acknowledge civil society as a major player in promoting citizens’ rights and

government	interests
<p><b>OGD requires and implies a strong and robust civil society, not as an abstract good, but as a requirement for further development</b></p>	<p>Civil society's participation is a defining feature of OGD; proper government OGD practices entail the involvement of civil society organisations in creating an Open Data community</p>
<p><b>Innovation and creativity are needed to engage and foster public support</b></p>	<p>The Qatari government should run innovative campaigns to engage the public and motivate the Open Data Community</p>
<p><b>Promoting societal education and community awareness</b></p>	<p>The Qatari government should conduct regular OGD awareness workshops in public libraries and community centres, and incorporate OGD potential in education programs</p>

Table 10: Qatar's Open Data Community main foci

#### 6.4.5 Recommendation 5: Strengthening the use of Web 2.0 Technologies

Web 2.0 brought a paradigm shift from Web 1.0, towards more mutual, participatory, and socially driven technologies and practices.<sup>526</sup> It harnesses peers' social interaction and presents new opportunities for enhancing the Web and engaging all users in a more effective, and interactive way.<sup>527</sup>

Web 2.0 and social networking tools provide an important avenue for communicating the OGD message and disseminating its values. The United Nations 2012 survey on e-Government points out that governments' use of social media is 'often highlighted as a good example of Open Government, which builds on principles of citizenry and information transparency'.<sup>528</sup> Web 2.0 tools and social

<sup>526</sup> O'Reilly, above n 200.

<sup>527</sup> Ibid.

<sup>528</sup> United Nations Public Administration Network (UNPAN), 'United Nations Global e-Government Readiness Report 2005: From e-Government to Inclusion' (2005) UN Doc UNPAN/2005/14 <<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan021888.pdf>>.

media enable governments to consult with citizens and expand the opportunities for public participation. They can be used to gather public support for the Open Data policy and to collect feedback on the OGD strategy and framework.

Web 2.0 changes the power relationship in the public sphere as it allows anyone to be a publisher. By enabling two-way communication in real time, Web 2.0 enables government agencies to engage with their stakeholders instantaneously. It provides political leaders with new routes of communication, and empowers citizens with new ways to have their say. Web 2.0 has created an environment that can no longer be ignored by leaders and decision makers, as is apparent from the fact that President Barak Obama has more than 40 million followers subscribed to his Twitter account.

The Qatari government must harness Web 2.0 and exploit its potential more effectively in its OGD practices. It can use Web 2.0 technologies to shift from a supply-driven approach to data release to a more demand-driven approach, under which users can request the kind of government information they need and when. The government can harness social media to increase transparency, foster an OGD culture, and monitor public satisfaction with its data disclosures with the aim of improving their quality over time.

<b>Qatar's Web 2.0's Approach to further OGD</b>	
<b>Harnessing the Read-Write new innovative feature of Web 2.0</b>	From Read-Only to Read-Write capability, thus the government of Qatar has to exploit that feature and improve its capacity
<b>Empowering the Demand-driven approach in OGD practises for a stronger public engagement</b>	Old supply-driven technique has to be replaced with an interactive demand-driven approach for better OGD outcomes
<b>Real-time responsiveness and bilateral mutual feedback process</b>	The Qatari government must establish an expectation of high-level of responsiveness in releasing datasets and

<p><b>Sharing prompt technical expertise and exchange experiences with individuals in the country as well as the private-sector, and the world</b></p>	<p>modifying it based on public’s feedback</p> <p>Using Web 2.0, the government must reach out all stakeholders and exchange ideas with other best-practises pioneer OGD experiences in the world</p>
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Table 11: Qatar’s Web 2.0 Strategy’s main foci

Web 2.0 holds great potential to increase low levels of civic engagement and increase public participation in Qatar. It can be an effective tool for disseminating the message of OGD in the community with the aim of cultivating a more informed society.

The main recommendations of this dissertation are summarised in Figure 24 below.

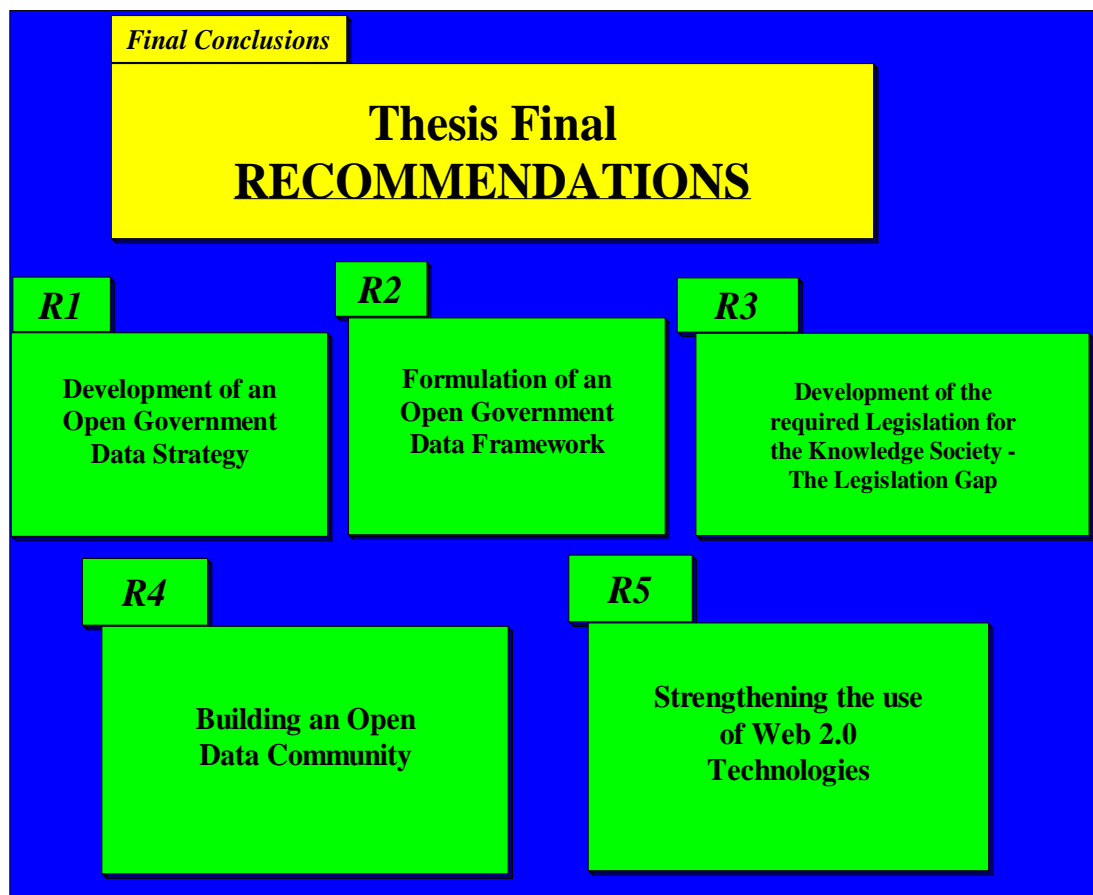


Figure 24: Summary of recommendations of this Thesis

## **6.5 LIMITATIONS OF THIS STUDY AND FUTURE RESEARCH**

The stated objective of this study was to promote and improve the low uptake of e-Government services in developing countries by introducing a new phase of e-Government known as Open Government. This objective was inspired by the growing worldwide support for Open Government Data, especially in the developed world. In light of the emerging trend, this thesis focuses on OGD developments in developing countries, and especially in the State of Qatar.

The ultimate aim of this thesis has been to develop recommendations to support the enablement of OGD in Qatar. This was done by reviewing the literature on OGD trends in the developed world, considering its implications and their relevance for developing countries, and examining the particular case study of the OGD initiative in Qatar. The findings of this research formed the basis of the main five recommendations of this dissertation as the outcomes of the study were consolidated and developed into those five recommendations. However OGD is a new and cutting-edge subject that has only emerged since the late 2000s, and remains dynamic and subject to constant change. OGD must not be considered as a target by itself. Rather it is a continuous journey that learns from the mistakes and obstacles encountered, and a dynamic area that is always developing. It does so by learning from the experiences and resources gained from other international and regional OGD practices.

The five main recommendations suggested for implementation in Qatar, as an example of developing countries, are generalise able only to the extent that the experiences in the local context of Qatar can be applied to other countries. In the future, it is suggested that more research could be conducted to fill the gaps left by this study. A gap exists as this thesis focused on OGD in the context of Qatar, and is limited to circumstances in Qatar relating to its OGD experience. More research should be done in other developing countries to further add to, or modify, these recommendations in the context of the developing world. Future studies could expand the scope of this study to include empirical data based on public surveys on the best ways to promote OGD practices in developing countries.

The opportunities for future research are limitless because of the dynamic features of OGD, because it is a relatively new subject of academic research, and the fact that it has only recently become a focus of interest and research. More studies



will help to expand the current body of knowledge on Open Government Data initiatives and practices, not only in the State of Qatar but also in other countries around the world.

## **6.6 CONCLUDING COMMENTS**

This study has sought to contribute to the field of Open Government Data in the context of developing countries, particularly in the State of Qatar. It has examined Open Government initiatives in the developed world, conducted a case study of OGD in Qatar, and formulated a set of recommendations that can serve as a foundation for future research on Open Government in other developing countries.

Open Government is truly in its infancy. This thesis is only a first step towards a more inclusive understanding of Open Government in developing countries. It was proposed initially at the time when Open Government Data concepts were beginning to take shape in developed countries, particularly in the United States, the United Kingdom, the European Union, and other OECD members. While this thesis was being written, many OGD initiatives were introduced and there are now publicly accessible Open Data portals in many countries worldwide. Many of these portals have been updated, revised, and relaunched in the continuous dynamic learning process that characterises initiatives in this field. It is expected that the Open Government Data initiatives will continue to grow as more countries are becoming interested in realising the benefits of these ongoing developments. It is hoped that public organisations in the State of Qatar and other countries especially in the progressing region of developing countries will use the findings and recommendations of this dissertation as guidance in pursuing their objectives.





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